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WRITES
GEORGE BAILEY

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January

WONDER Stories

HUGO GERNSEBACK EDITOR



"ONE WAY TUNNEL"

by David H. Keller, M.D.

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THE MAGAZINE
OF PROPHETIC FICTION

Vol. 6, No. 8

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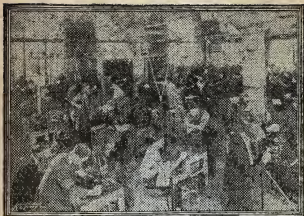
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WONDERS OF SPACE-DISTANCES

By HUGO GERNSBACK

USED as we are to terrestrial distances, we are always in awe when we read how this or that ocean flyer broke a new record by covering distances to the tune of 10,000 miles and over. These distances, however, become meaningless and microscopically insignificant when we consider distances out in space. We are all familiar with the term "astronomical distances," but frequently even this doesn't mean anything to us. The terms millions and billions of miles, the term of light years, all may leave little impression upon our minds.

But suppose we translate these distances into something that we can better grasp, so that these space-distances assume new importance. Our nearest neighbor in space is the moon. It is roughly 240,000 miles distant. The fastest airplane on earth so far covered a little over 400 miles an hour. This is a terrific speed compared to about 130 miles of the fastest passenger train. But suppose we have a machine that can do 500 miles an hour. This is a respectable speed. With such a speed, we could negotiate the distance between New York and Cherbourg, roughly 3,000 miles, within six hours. How long would it take such a machine traveling 500 miles an hour without stopping to get to our nearest stellar body, the moon? The answer is about 19 days and 16 hours. How long would

it take to Mars when it is closest to us, that is, about roughly 35 million miles? It would take the machine exactly 8 years at the rate of 500 miles an hour, never slowing, never stopping, at this speed.

A "little" farther out we find Jupiter. It would take our 500-mile-an-hour flyer a trifle over 83 years to get there, providing Jupiter was nearest in its orbit to the earth. But how about Pluto, the farthest of our planets? It would require about 867 years to cover this distance.

But all of this is comparatively simple child's play, because, after all, our solar system is small and compact. Now suppose we wish to go to our nearest star, Alpha Centauri? How long would it take a machine traveling at the rate of 500 miles an hour? The answer is just 61½ million years; and that is our *nearest* star. A star a "little" farther out, Betelgeuse, would require 2,750 million years of travel. Another star, not so very far out as astronomical distances go, is Rigel. How long would it take to reach this star? It is only a matter of 6,500 million years.

But why go farther? The human mind no longer is able to comprehend even such comparatively small astronomical distances. It just serves to show how insignificant we are and how tremendous is the expansion of the universe.



(Illustration by Paul)

The tank exploded—a gigantic fountain of fire shot up toward the heavens.

THE HIDDEN COLONY

By

OTFRID VON HANSTEIN

(Translated by Fletcher Pratt)

PART ONE

● Quite suddenly and without the slightest hint of twilight, the night came—night in the primeval forest! No, rather on its edge, since it drew back in a little circle, southwesterly from the small elevation, crowned by an ancient wall, on which I stood. Lena Aporius still lay in a sleep so deep that it might have been a faint. As a matter of fact, it was more a quiet and natural sleep than a faint, for her cheeks had a touch of color, and on her mouth was a gentle smile. She lay there so youthful, almost childish—a child, asleep in the ancient forest.

A wild, fearful shriek rang through the silence of the night, I started convulsively, then forced myself to be calm. Naturally, it would be the howling monkeys beginning their nightly concert, and that other sound would be the parrots screaming in answer. Had I not read about both a hundred times in various books? The storm was ended, but a slight night wind still rustled through the branches. It whispered and lisped all around, and down below, where the vertical rudder of the airplane stuck out, prominent in the gloom, it played gently. Above, it whistled and rustled in the cracks of the old tower on the hilltop. The stars shone clear and bright in the sky above, the moon was invisible, and big flakes of cloud were being hunted to and fro across the heavens, where the wind still seemed to blow with considerable force. It was as though shadows were running past—the shadows of gigantic men or strange beasts.

My nerves were taut. I stood up and

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looked around, feeling a sense of terror and uncertainty. It had all happened so quickly. I had not even lit a fire—and now it was too late! Comically, I did not trust myself to go down the hill and look for wood. No, it was not cowardice—only I did not trust myself to go away and leave Lena Aporius, even for a few seconds. And for that matter, I doubted whether it would be a good idea to light a fire. The hurricane had certainly carried us a long way southward. Naturally, we could hardly be at the edge of the jungle already. Once more I looked at the sleeping form of Lena Aporius—and then I heard a light, singing tone, but when I turned around to look, everything was still. The howling monkeys had become quiet but all around were little points of light that swam to and fro. They were not men as I thought at first, but gigantic fireflies.

And then came a trumpet-like sound—

this time certainly not the voice of an animal—but undoubtedly the kind of sound that only a man could make with some instrument. I clutched the revolver harder in nervous fingers. There were men near, but in this place and in this dark the thought filled me only with fright. What kind of men would these be? I tried to remember all that they had told us yesterday in Merida. Between Merida and Valladolid there are nothing but a few isolated *haciendas*, built by the Spaniards out of alagaves, and protected by their prickly bayonet-like points; but we had come far to the south or southwestward, and were more likely in the wild district of the Chan Santa Cruz Indians, the tribes which only recently had destroyed half of Valladolid.

Now I saw larger lights among the dark of the forest. Men, undoubtedly, bearing torches—three—four—ten of them; I thought involuntarily of the faces of Tata Polin and Toltec and the "Mouth God" of the three ghastly faces of the priest-kings of the Chan Santa Cruz Indians that had been shown to us; the priest-kings who call their people together by the sound of the trumpet, their heads be-decked with masks, and who send them on their missions of robbery.

Now the torches were gathering around the ruins of the airplane—silently, or at least silently enough so that I could hear no voices above them on the hill.

And then once more the lights vanished back into the forest. I was uncertain—should I waken Lena and get her into the tower to barricade ourselves there? Wasn't it altogether likely that the Indians were looking for us? Wouldn't they expect to find us in the tower? I stepped over to Lena, but came to a stand—for I would not have time to remove the great stone that barred the door of the tower. Did I know what kind of tower it was? Might there not be a hundred poisonous snakes within? Could I see my way without a torch of my own, and if I lit a torch would it not bring the Indians immediately upon our trail?

I stood still, listening. Something

snapped, quite near. I held my revolver in a convulsive grip and felt it comical that I did so. What use would it have been if they had really attacked us?

The snapping came again and louder. A great dark shadow appeared—a black something stood there for a trembling minute, then trotted away comfortably. I breathed again—there were no Indians very close by, or else this tapir would not have come down to drink. I saw his plump body wagging down the hill, and for a moment I laughed at myself. If there were Indians about, they most certainly would have been more afraid of the great bird fallen from the skies than I of them!

Behind me I heard a movement. Lena Aporius seemed to awaken.

"I'm so cold."

I sprang to her. She had closed her eyes again, but she was shivering with cold. I took a thick robe that I had managed to drag out of the airplane and wrapped it around her. Even then she did not open her eyes.

"Thank you, Miss Leeves."

She smiled, then cuddled down in the blanket, still without opening her eyes, and turned comfortably over on one side,

"Good night, Miss Leeves."

● Like a kitten she curled up, her limbs, stretched them once more, laid her left hand under her cheek and was asleep again at once. Certainly, she had imagined she was still in Mexico, in Miss Leeves' house. I was glad that she had not come altogether to herself, but these few words brought other thoughts to my mind.

Miss Leeves! Mexico! Was it then really possible that it was only three days before that I had been listening to the music in front of the Pavilion of the Paseo, looking up through the heat at the snow-capped crown of Popocatepetl, and hearing the sounds of the great city all about me? The cortège of elegant autos from the monument of the last Indian Emperor Guatmotzin, up to the lordly cloud-castle of Chapultepec, the summer residence of the president, the numerous

riders, part of them clothed in the brilliant colors of old Mexico, with their silver-bedecked, broad-brimmed sombreros—I recalled them with something like astonishment.

It was remarkable how the comfort that seemed to enfold the sleeping Lena reached out and helped me also. I sat down beside her and then for the first time felt how much in need of rest I was, how tired my limbs were. I too was cold, for though it was still over 68 degrees, the wind that rushed around the tower made a contrast to the heat of the day that caused the chill to be doubly perceptible.

I had given Lena the warm robe. That was all right—I myself dared not sleep, no matter how tired I was, but I took a good drink of whiskey from my pocket flask. All around me everything was still. The howling monkeys and parrots had gone to sleep, the fireflies had left us. Tropical night. But the silence contained nothing comforting. On the contrary, there was something nervous, exciting about it. There below lay the impenetrable forest, an enchanted forest full of secrets and fear. Behind me was the ancient tower, certainly the monument of some culture long since disappeared. Perhaps it had been a Teocallis of the Toltecs themselves, and on its altar streams of human blood had flowed.

Before me lay the wide, stony, broken levels, uninhabited, or inhabited only by the wild tribes of the Chan Santa Cruz. Mysteries, secrets! And three days before I had been surrounded by the whispers of a great city. I compelled myself to think back. How in the world was it that I had plunged into such excitements and perils?

I had come to Mexico to take Lena Aporius home and deliver her to her relatives in Germany.

Wenzel Aporius, the ingenious inventor, was dead. No one doubted that fact any longer. A tragic sacrifice in the tumult of the World War! And just at that moment his star was at its brightest, too. He had worked tirelessly over his

new machines, over the greater utilization of water power, over the employment of power from the sun and the air-currents.

Almost daily the newspapers had something new to tell about "The German Edison"—and then suddenly, it all stopped.

In the summer of 1914 he himself, with a whole shipload of his newest machines, had embarked for America on board the *Prinz Christian*. He was on his way through the newly opened Panama Canal to San Francisco, whither his wife and daughter had preceded him by way of New York and the railroad, and he expected to meet them there.

Since that moment no one heard of him. The *Prinz Christian* had never reached the coast of Panama.

How wonderful a thing sleep is! I have heard that men in the war, when their bodies were sufficiently tired, went to sleep in the middle of a bombardment. Our position was in reality little better than this. In the middle of the gigantic forest, surrounded by fearful things, with almost the certainty that wild Indians were looking for us—I went to sleep! But it was no ordinary, restful sleep. Once more in my dreams, I lived through the fearful events of the flight. I sat in the plane and held the stick with convulsive grip. What a senseless piece of rashness it had been! When Lieutenant Baker became ill in Campeche, I would not have dared do such a thing, but Lena Aporius commanded, and I obeyed, within me already the thought of how pleasant it would be to be alone with her, flying over the forest. The weather had been so fine and the wind quiet, and it remained that way till we reached Merida. It would be a mere step for such a craft as our biplane.

Of course, as we started out that morning, I no longer had Lieutenant Baker by my side to help me, and it had been years since I had flown much, and the machines were then quite different. But my courage rose; and the sky was so blue, Lena was excited and happy, and it made

her still more beautiful. We flew away, the prey of a thousand curious eyes. Did I dream it, or was I still awake and running it over in my mind?

That little, slow city of Merida with the gayly colored houses and the strange-looking people who held themselves as proudly as any *hidalgos* of Spain! And then, suddenly and unexpectedly the north wind came upon us. I held the stick convulsively for a moment; it seemed to fly from my hand, something somewhere snapped and broke, and then everything around us was quiet. We were standing still, hovering—no, we were rushing along! My eyes touched the earth, and then I understood—or saw, rather, and understood nothing. Why was it that the earth was no longer visible beneath? Why this wild whirling mass of things all tossed together? My heart seemed to stand still. We were a plaything of the raging storm, carried over the country by it. And then, suddenly, there was a fearful shock. I was flung over, almost thrown from the aviator's seat, hanging by the emergency-strap. Then another shock pulled out farther. I turned to look toward Lena, saw her leaning against the side of the seat with closed eyes, but had no time to do more, for the motor stopped suddenly; the heart of our bird was dead. I felt as though the blood would be torn from my veins. I gripped the stick, pulled and jerked at it, but the wind nullified every effort. Suddenly, our downward progress was checked as some new wind-eddy from underneath carried us upward a trifle. We were carried along above the tops of the forest—the tops of the trees! It was then that I noticed we had lost much altitude. For a moment I thought the clutching arms of the branches must seize us. There was a brief secondary halt, and then—I succeeded in getting a grip on the stick; we were no longer falling, we were gliding.

● Benevolent Providence! Right before us in the middle of the wood there opened a little clearing. I was not particu-

larly glad. I did not think of anything of the kind in fact, stopping only to grip the idea that the clearing was like a little rustic theater, almost unreal. I held the stick in my hand and staring at the earth beneath, swung the vertical rudder to get a good glide. And then came another frightful surprise. The rudder cramped and then—a crack, a splintering and crashing. I felt myself projected through the air and then I opened my eyes.

I lay on the ground, high up, near the tower, and stared around. I had to pull myself together before I realized that it was only a dream in which I had passed once more through the events I had already lived, but in my ears was a humming, in my senses a feeling that some frightening and terrible noise had aroused me.

It was altogether dark around me. In the sky above, the clouds must be dark, since the light of the stars was hidden. I looked around eagerly and saw Lena Aporius. She lay there, as though still asleep, her limbs still extended, but I felt rather than saw that her eyes were wide open.

"What was that?" Her voice shook a trifle.

"What?"

"That frightful screaming and howling."

I sprang to my feet and looked around. Everything was as still as death, with a kind of uncanny stillness. Not a leaf of a single tree rustled in the forest. I felt how Lena was trembling all over. She had gotten to her feet and was near me.

"Where am I?"

She reached for my arm, and then suddenly her voice rang out in a scream of half-awakened fear.

"Miss Leeves! Miss Leeves!"

The tone of her scream pierced me to the marrow. I put my arm around her shoulders.

"Please, please, I beg you, gracious lady—"

How comical it was—two people wandering in the wilderness and one of them calling the other "gracious lady" as

though in a formal drawing-room! I thought of it only for a moment, but she did not answer me. She sunk to her knees again.

"Miss Leeves!" she sobbed.

Then she was quiet once more. I bent over her. She had closed her eyes again and was trembling, but I got her up again and led her to the edge of the tower where I had arranged a crude camp with our laprobes. Then she became quite quiet again. Was she asleep?—or had she fainted again, or had fear robbed her of the power of speech?

I sat down beside her once more. I wondered whether this night would never come to an end. The silence around had become doubly frightening—this silence of death which had been broken by such an uncanny procession of sounds. I could not have dreamed it, since Lena Aporius also had heard it. What kind of a sound was it? A puma? A jaguar, that might even now be creeping upon us?—or some frightful signal sound of the Indians?

And Lena herself had screamed out so loud—perhaps she had betrayed our presence to attentive ears. I felt as though the tips of all my nerves were tingling. I tried to search out the dark that seemed to lie on my eyelids with a heavy and palpable weight of its own.

I thought that I saw forms moving down there and heard the padding of light footsteps. Behind us where the tower stood I seemed to hear voices whispering softly. If I could only have screamed out myself or at least fired the revolver, it would have been an enormous relief. It was extremely difficult to sit doing nothing. This endless, nerve-tearing waiting was the most terrible of all.

Then the whispering sounds became louder, and a sigh of anxiety escaped me. It was the wind, rising again and stirring through the forest-leaves. And as I watched, I saw the sky also alter, ever so slightly. A pale, uncertain gleam stood in the top of the heavens—then in a second it turned to a sharp yellow in the east, took on a reddish tone and in the same moment, the singing birds of

the forest awoke. Their voices were strangely comforting to me. Nature was giving her brief and only warning that the tropical dawn was upon us. I say us, because Lena Aporius was awake, at least in body, for she sat with open eyes, her back pressed against the wall of the tower, looking toward the east, where the sun had now, not slowly, but like a fast-rising balloon, leaped above the horizon. In a moment, a short second, the red and gold light had streamed across the heavens and it was all before us—the might of the jungle day, streaming across the trees and grasses.

I looked at Lena. The fear had vanished from her face, but now there lay there a happy, ethereal expression, almost unreal, and I felt a shrinking feeling within me. I remembered certain remarks that Dr. Leeves had made—was Lena altogether sane?

Was I wandering the wilds with a madwoman for company? I turned to her and spoke as quietly as possible.

"Good morning, Miss Aporius. That was a bad knock we got yesterday with the airplane. I hope that you have come through it all right and have nothing to fear."

● She looked at me as though trying to remember something, then turned and glanced at the valley again, where what was left of the airplane lay, half-lit by the rising sun.

"Poor doctor! I make so much trouble for you."

I could have shouted for joy. She recognized me; she had full consciousness of what was going on!

"We must bear the troubles together, gracious lady, and the first trouble on our hands is that of looking for breakfast. I wish we had a cup of coffee, and I wonder where we could find something to go with it if we had it."

Again it seemed as though a shadow had passed across her eyes. She stood up and looked at the tower.

"I think we are not far from our goal."

"From what goal? Pardon me if I do not say 'gracious lady' every time."

"Why don't you simply call me Lena?"

"If I may—?"

"Certainly, my good friend."

She reached out her hand to me with a simple movement. I would willingly have kissed it, but I restrained myself. And for that matter I did not quite dare ask what she meant when she said we were near our goal.

"If you are not afraid to be alone for a moment or two, Lena, I'll go down there to the wreck of our poor airplane and see whether at least a little of the provision-chest hasn't survived the crash."

"Good heavens!"

She pressed my hand. Involuntarily, I was momentarily frightened, the pressure was so convulsive. And I could not imagine why the mere thought of leaving her, to go down the few steps necessary, should cause her so much emotion. But I followed the direction of her pointing finger and then I understood. Down there were men, Indians in their weird regalia. And ah, how little like the romantic last of the Mohicans of the books these Indians were. They had come softly and cautiously out of the forest. Apparently they were the same ones who had gathered around the machine in the night. Lena and I held ourselves close against the wall of the tower, hardly daring to breathe. The men down there did not seem to be looking for us. Their attention was all concentrated on the giant bird which lay before them. And now once more we heard the high, shrieking tone of the trumpet that called them together.

I remembered that a small pair of glasses hung from the strap of my flying suit and placed them to my eyes to get a better view. There were some fifty of them down there, and I made out that one bore a mask of some kind.

Santa Cruz Indians! The Toltec! The Tatapolin! They were standing around the airplane, a little distance from it. Apparently it worried them; then I saw that

some of them were close up to it busily engaged at something. I could only see with difficulty since we had to lay hidden where we were, but a moment later I made out a tiny flash of flame.

Lena Aporius was holding my hand fast. It was remarkable how calm her voice sounded when she spoke. There are many women like that—frightened of some little thing, but who face genuine perils quite cold-bloodedly.

"They're setting fire to our plane."

She said it as quietly as though it were something she was witnessing in a play. Now the men down below began to spring around the fire, and we heard the distant sound of singing.

The fire took hold on the torn wing-fabric. It sprang eagerly up, licking with hungry tongues at the spars and braces. A moment, and the whole machine was one sea of flame. It was a wild picture—the flaming airplane and around it the dancing Indians, now howling with glee. In the shadow of the glade, we could make out clearly the huge beast-masks they bore. And then suddenly, there was another sound, a humming and buzzing. Perhaps yesterday the storm had somehow broken loose some fragment of wood and carried it into some essential part of the motor. The quick coming of the twilight had given me no time to seek out the cause of its failure. And now the fire had somehow removed the impediment and the motor began to run once more.

We saw how the Indians sprang back. The roar of the motor must have seemed like a voice to them. For a moment the burning airplane seemed to rise ever so little, its rudder wagging in the air, and then came a frightful crash. The tank exploded—a gigantic fountain of fire shot up toward the heavens; a stream of flaming faggots was flung high over the trees, then a thick cloud of smoke that concealed everything below there—and all was still.

The Indians had vanished into the woods in panic fear.

The airplane had given itself, at least, a splendid burial.

Everything was still. We peered around, cautiously.

"They're gone."

Lena nodded.

"They'll never come back, either."

We waited a long while, but everything was still as death, and down below there was nothing but a few lazy streams of smoke over the ruins of the airplane.

"I agree with you that they won't come back."

● Poor, stupid people! How could they possibly grasp the idea that the gigantic bird that had fallen among them with such a bellow of sound out of yesterday's storm, and which now flew into the heavens with such a tremendous explosion, was nothing but a vehicle for two other humans?

We waited for an hour, then I stood up.

"I'm going down there."

"All right; I'm coming with you."

I didn't feel like denying her. It would be better if we stayed together. In any case, I had the revolver, which was a comfort as well as a protection.

"Do you feel all right again?"

"Perfectly all right."

We went down the hill, still cautious and looking about us at every step. In reality, we had only been a couple of hundred yards from the Chan Santa Cruz. The ruins of the airplane were still glowing with heat, but nothing remained except the metallic fragments of the motor.

"It seems altogether worthless to look for anything useful in that mess. It's a shame that before the night came down on us yesterday we didn't get something out. We might at least have saved a map, but that and the compass have both gone now."

I was ashamed of myself. If I had not been so anxious not to leave Lena alone in the dark, I might have saved these things and our food-compartment as well.

Lena laughed.

"Look, there's our provision case after all."

It lay right at her feet, evidently pitched from the plane when it crashed.

"And here's a firebrand that will help us make a fire. Let's get back to the tower."

We climbed the hill again. The sun had risen right overhead. During the appearance of the Indians and the destruction of the airplane, the forenoon had passed.

"I think it would be a good idea to stay here, at least for the rest of the day and the night. I consider it certain that the Indians will not come back any more. They are so superstitious that they will surely avoid this locality for fear of their gods."

I pulled away the big stone that stood before the door of the tower and stepped in. It was a four-sided tower, closed off somewhere above, also with flat stones. Certainly some old Toltec watch-tower, but at the moment I felt no desire for archaeological research. How well those people had understood the principles of construction! The roof was still all right; there was no speck of moisture on the walls, and yet it was not altogether dark within, and the cool air that pulsed through the place was not dank. A light, which by a modern architect would be described as "indirect lighting" illuminated the inner space. The tower was empty. Its floor was covered with a fine powder of dust, what must have been the accumulation of centuries. Had any animal, even a snake, been in there, it must have left some traces in this white dust that had filtered in through the openings in the course of the ages the building had been there.

I lit a fire in the middle of the floor and Lena brought in some dry wood. The smoke immediately made its way upward, and when I looked at it from the outside, I perceived that it was emerging from a chimney-like opening. I did not believe for a moment that the Indians would be attracted by the sight of the smoke. They most certainly looked

upon the ancient tower as some dwelling-place of the gods and under no conditions would it occur to them to connect the smoke with the presence of human beings, or with the gigantic bird which they had slain. Perhaps they would imagine it some more of the activity of the god which had ridden to them on the wings of the storm.

The Indians of the Chan Santa Cruz are supposed to be Christians, but they are Christians who have really lost none of their heathenism. They imagine the pictures that the Catholic missionaries show them to be nothing more than pictures of strange foreign gods. What could they understand of the spirit of Christianity? But they are clever. The whites are stronger than they, and the whites believe in the pictures of gods which hang in their houses. Therefore the Indians pray also to the same gods and call themselves Christians—but in reality they still serve the old gods along with the new gods the Christians have brought with them.

I had gone down to the stream that flowed past the foot of the hill and filled the little kettle that was in our provision-case. As I did so, I took a look around. By means of the shadows thrown by the noonday sun, I managed to judge my direction a little. We must have long since missed Valladolid by some distance. There—in that direction, beyond the Chan Santa Cruz, must be our destination. The little brook doubtless belonged to the system of the Maratin River, where the Indian city of Chan Santa Cruz itself lies. Therefore we must not go in that direction. If we made our way southwesterly, it might be possible to reach the railroad line that leads to Merida and Peto but—we did not know exactly where we were, and in going in this direction we might fall directly among the Indians. Easterly must be Valladolid, and from that town to Merida I knew there was a good road.

Admittedly, that was all theory; before us, far to the north and east, lay the wild steppes, while to the south and

west everything was forest. I went back up the hill, thoughtfully, rather fearing to discuss the matter with Lena Aporius. She would know then, if she did not realize already, what stood before us—a march of days, perhaps of weeks and months through utterly wild country.

● I looked around. There above, the fire was burning and the smoke rose toward the sky. Suddenly, something like a feeling of comfort swept over me at the sight of that friendly smoke. And also—a feeling of happiness!

I was alone with Lena—me, altogether alone with her, suddenly cut off from all the world, alone with her. And—I loved her!

Was I not living in some kind of dream? Had I not dreamt all this? Was it not some fantastic daydream? I wondered whether I was not becoming a fatalist, me, a man who had always believed he held his destiny in his own hands.

The first beckoning of this new fate was the professor's letter. He had sent me to the girl, whom I already loved without knowing her identity, since that hour when we had first met in the streets of Panama.

How I could ever hope to meet her again, I knew not, nor who or where she was.

The second beckoning of fate had been the chance that had placed her alone with me in the airplane, and now we were altogether alone, alone and in good health, despite the smashed airplane and the Indians that had surrounded us.

Fate! A good, lucky fate—I will never cease to believe in luck again.

Then once more I felt a pang of anxiety. It was all so still there on the height. Was she sick again? Perhaps she was alone, and in fear and trembling, while I, a dreaming boy, stood on the hillside and looked around.

I ran up the hill. It was a curious and interesting picture I saw. The fire burned clearly, like a sacrifice-flame on an altar, and now for the first time I

noticed that the rear wall of the tower was painted with a huge sun with streaming rays, the bright colors preserved there through the ages of solitude—the sun of the Toltecs! Between this flaming sun and the fire sat Lena, and on her face lay a laughing, peaceful expression that frightened me a little. Her face had once more that other-worldly, faraway expression that had so alarmed me before. I felt that I would almost rather have seen her frightened.

She had spread out our provisions on the big square block of stone that stood in the center of the tower-room. I did not wish to think on the fact that it was in reality a stone over which the blood of sacrifices had coursed in earlier ages. I merely hung the little kettle on the wire that had been arranged over the fire.

"We will rest here for this night."

"Yes."

"And in the morning, we will start out again. I imagine the best way would be toward the east."

"Yes."

A happy smile went over her face and her voice sounded glad, sounded as though she herself had come to the same decision and was happy to find that I agreed.

"It will take us some days to reach Valladolid; I don't know how many, since I can't tell where we are. Once we get there, we can reach Merida again."

She shook her head. On her pale face lay a glow of infinite happiness—a kind of ethereal light. She took me by the hand and pulled me over toward her.

"My dear friend, we are going to find my father."

I was frightened again, and over me came the horrible uncertainty as to whether she really understood what I said.

"I beg you, believe me, we are going to find him."

"Lena—"

"I know it."

Her voice was filled with an accent of certainty.

"I know this old tower."

"You know it?"

"I have seen it so many times already, and both of us in it. And tomorrow morning we will go both together toward the sun—after the storm is over—toward the sun and find my father—"

"Lena!"

She looked at me with damp eyes, big and wide-opened. I felt that though she was near me, her spirit was elsewhere. The water began to simmer in the kettle; the sun was sinking—and suddenly I felt unutterably weary and sad, and I was filled with sorrow for her.

CHAPTER II

Disaster

● In the year 1914 the whole world hummed over the ingenious inventor Wenzel Aporius who was on the way to California with a cargo of machines of his own invention. His ship never even reached the coast of Panama. It must certainly have run on a mine or some unknown reef and Wenzel Aporius must have sunk into the depths along with his machines. Germany was saddened—what could not such a man have done to help her during the hard days of the war? And Germany's enemies were equally overjoyed. Mrs. Aporius and her daughter Lena waited in San Francisco; they were the only persons who never believed in his death. And then they came down to Panama. Every day they expected the father of the family to arrive there. The more all the rest of the world believed in his death, the more certain they became that he would return. Then it happened that Mrs. Aporius sickened of the yellow fever in the dank Panama climate and in a few days she was dead. The Leeves family took the daughter, herself ill, back with them to the city of Mexico. I myself had met Lena Aporius just once. It was in Panama in the spring of 1915. I had been working for a year as an engineer on the Culebra Cut; the climate had been a severe strain upon my health and I was on my way northward for a rest. I

was on the way toward Frisco when I saw Lena. It was only for a moment, only a sort of fleeting glimpse that I had of the daughter of the great Aporius who had been one of the first sacrifices of the World War.

And since that moment, the memory of that slender figure, the pale small face, and the great, wide eyes, had followed me throughout the world.

It had been four weeks before, when I finally came back to Germany again, that I got a letter from Professor Scholermann, my old teacher, then in Berlin, which read as follows:

"Dear friend:

"I understand that we are to welcome you back to Germany again, and I am heartily glad to hear it. But I understand also that you are about to leave at once, and under the circumstances, you can do a great favor for a family with which I am closely connected. The matter concerns the family of Aporius, the inventor, now almost forgotten, but prominent just before the war. His only daughter, Lena, is living with the family of one Dr. Leeves in Mexico, and is, I understand, about ready to give over the fruitless job of waiting for her father and come back to Germany. The distance from San Francisco to Mexico and thence home is, I hope, not too great a one, and not without interest; and if you will do us the very great favor of accompanying Lena Aporius home, it will be enormously appreciated."

Lena Aporius!

Immediately I saw her before my eyes again, and that same night I made arrangements to travel by way of El Paso and from thence down to Mexico. I met Dr. Leeves for the first time in the German Club in Mexico City.

"A lot of trouble about that girl," he said. "True, at the beginning all of us agreed with her that there was still a chance for her father, but—would you believe it?—she still doesn't believe he is dead, and expects news from him any day. I would be very glad indeed if you could arrange to travel with her. She is all right except for that one fixed idea—"

That evening I visited the Leeves family. There for the first time I was formally introduced to Lena, and we discussed the plans for the journey. She

looked very much as I had seen her that time in Panama—perhaps a little older, and her mouth had a little painful quirk in it. When I was presented to her, she lifted her eyes and looked at me calmly, but a quick expression of surprise passed over her face, as though she recognized me.

"You!"

The glad, friendly tone of the greeting stirred me. There's no use pretending; I certainly would not have rushed down to Mexico so soon after receiving the professor's letter if I had not already seen her and fallen in love with her before.

And now what did this mean?

She looked at me long and thoughtfully.

"Do we know each other already, Doctor?"

I answered gladly.

"The gracious lady is too good to remember it. I met you some years ago on a street in Panama."

She looked at me steadily, as though seeking something in my expression.

"No, I don't remember the incident, but—"

Suddenly she blushed and became confused.

"No, no, Doctor, we have not met before; it was a mistake on my part."

"Really? That is really too bad; you had already roused my expectations—"

Perhaps my voice must have shown a little too much of the warmth I felt; she gazed at me with astonishment.

"It was a mistake. I certainly don't remember being in Panama as you mention."

There was something in her voice that signified the conversation should be brought to an end.

"I am really very sorry, gracious lady, for this time I do not come to you altogether as a stranger; at least not as a complete stranger."

"I don't understand."

"May I beg you to look over this letter from my old teacher, Professor Scholermann?"

She took the letter graciously enough,

and then once more she blushed. And now it was I who did not understand—why the letter should stir her so, for her breath was coming quick and short.

"You, Doctor! Do you mean that we—"

For the first moment I was about to withdraw, but then I saw that it was not that she despised the idea of traveling in my company, only boundless astonishment that showed on her lips as she said—

"With you!"

"If the gracious lady will do me the honor to accept my company for the journey."

"But—with—with you!"

"Gracious lady—"

"No, please, don't think I'm annoyed. I really don't mean to mortify you. This is the first time we have met, at least intentionally, but—"

● In the middle of the sentence she broke off and once more seemed to think into a region of thoughts where I could not follow her. Dr. Leeves beckoned to me to come over to the other side of the room.

"I forgot to tell you that Miss Aporius, every once in a while, suffers from singular ideas. It isn't as though she were really sick, you understand, that is, what one calls sick, but—let's put it this way; she is a little fantastic and spends part of her time in a dream-world. Perhaps it is that you have some resemblance to someone in that special world of hers."

Before I had a chance to answer, Lena Aporius came over to me.

"Doctor, may I speak to you a moment?"

"By all means, gracious lady."

She took me off a little to one side.

"Do you believe my father is dead?"

"Gracious lady, I never had the honor to know your father personally, though I admired his genius very much. The whole world is determined that he is dead."

"I know he is still alive."

"I hope that you are right."

"Truly?"

"For his own and your sake."

I had spoken more warmly than I meant, once more, for in this moment the idea struck me that Lena Aporius was a trifle unbalanced, and however unbalanced she might be, I still loved her. She looked at me, a sharp glance, then sat down slowly, and began to sigh, while I saw two big tears come from her eyes and course down her cheeks.

"Gracious lady. Miss Lena—please—"

She looked up at me like a child seeking help.

"Help me to find him!"

"If I can."

"Gentlemen, may I ask you to come in to dinner?"

Mrs. Leeves stood in the doorway, interrupting the tension of the interview with this commonplace request. Lena seemed to wake up, smiled slightly, and passed her hand over her eyes.

"May I have the honor?"

Lena had risen, and laid her arm in mine in answer to the request.

"And how do you like Mexico?"

She was making an effort to speak quietly and in an ordinary manner for the benefit of the others, although we both felt that the Leeves family must have noticed the little passage between us and that the lady of the house had broken it up on purpose. I fell into Lena's mood and spoke of harmless and ordinary subjects, all the while feeling that between Lena and me a sort of connection of understanding had been established; as though she were trying to draw my attention to something without spoken words. There were several other guests at the table—a few Germans who had been asked in by Dr. Leeves to meet me, a couple of Spaniards, and an American aviator who had once been stationed near the Culebra Cut and whom I had met there. Since I enjoyed flying, we had gone up together several times to look over the canal from a birdseye view.

"You're going back to Europe again?"

"As soon as possible."

"What route are you going to take?"

"By railroad to New York and then—"

"Why don't you come with me?"

"How do you mean?"

"I've got to fly to Cuba. That is, I'm under orders to take my plane to Havana in the next four days. I will get a long leave after that and expect to go to Europe myself. Why don't you let me fly you over? It will be an interesting trip. The machine is down at Vera Cruz right now. I only came up to Mexico on a visit by rail, to break the journey a little. I'll spend one day between Vera Cruz and Campeche, make Merida the next, then Valladolid, and on the fourth fly over-sea to Havana. The jumps are all short and not fatiguing. From Vera Cruz to Campeche is the longest, only about three hundred miles, and the others even shorter. But it's an interesting trip, right over the middle of Yucatan."

"I'd go willingly, but it would—"

Lena Aporius interrupted me. She was all excited once more.

"How many people will your airplane take, Lieutenant?"

"Two passengers beside myself."

"Thank you."

● She broke off the conversation on that note and all through the rest of the dinner said little. I looked at her. She seemed to be thoughtful once more. After the dinner was over she beckoned me aside again.

"You want me to go to Europe with you, don't you?"

"I would be delighted."

"Then ask Lieutenant Baker to take us with him in his airplane."

"But—"

"We can easily find a steamer in Havana."

"Easily, but—"

She was impatient.

"Don't you want to?"

"Gracious lady, I—"

She sighed, then spoke, quite quietly: "I understand that my request seems a bit queer to you. You know I can never fully believe that my father is dead. I

know that people think I'm overstrained on that idea and that I believe in dreams. This much is true, that I have often dreamed of my father, and there is something else; in these dreams I often saw a man I had never met in my life, and who resembled you strangely. And then I see my father wandering in a wild, lonely locality. I am no child. Neither am I insane, but once in a while I have a feeling of fright. Where can he be, and what can it all mean? I have so often thought of the uninhabited wildernesses of Yucatan. I have even written to officials in Merida and Campeche. Not a result. And yet—

"And yet, it seems to me that I would be leaving my father in trouble if I went back to Europe alone.

"There comes the Lieutenant. It's doubtless very silly, but I feel that if I myself could fly over those Yucatan wastes in his plane, it would give me some degree of inner quiet, for all time in the future.

"I know it would be a lot of trouble, but I saw when I looked at you that you yourself would willingly go by air. I beg you—"

"It's a bit dangerous."

"I won't worry."

"But—"

"Please!"

She looked at me with a pleading expression in her eyes.

"Will you refuse me the first request I ever made of you, and I thought you—"

How curious that was. I had the feeling, almost amounting to certainty, that she was going to finish with "I thought you loved me." It was a ridiculous thought, especially on the evening when we had met for the first time, and after we had hardly exchanged twenty words. But she had reddened—she looked positively beautiful when the blood mounted like that into her pale cheeks; it made her look even younger and more delightful. I looked at her, but she avoided my glance.

"I'll talk to Lieutenant Baker."

She nodded warmly to me and took

the arm of Miss Leeves, whose room she shared in the house.

I went over to the Lieutenant, who was talking to Dr. Leeves.

"But of course. I don't understand why the trip to Havana should be any more dangerous than any other piece of flying. My plane is one of the best, and I have made flights during the war that were ten thousand times more dangerous. Moreover, the Yucatan district, which we will be crossing, is mostly all level and simply desert. A forced landing there would be much less perilous than those I have made in the Alps during the war."

"What about the Indians?"

Baker laughed.

"They are mostly poor, stupid, good-natured people, and the only wild ones, the Chan Santa Cruz, would be more afraid of an airplane than we of them. What do you think of the idea, Dr. Leeves?"

The American shrugged his shoulders.

"For my part, I don't see why it should be any more dangerous to fly over the country a couple of hours out of every day with Lieutenant Baker at the controls, through this calm climate, than it should be to get into a ship and cross the ocean."

"In any case, as long as Miss Aporius is in the condition she is now, I think it would be a good idea to get her to Europe and her relatives as soon as possible."

Dr. Leeves seemed about to say something more, then changed his mind.

"Then, Lieutenant, we can count on you to take us with you?"

"I'm leaving tomorrow morning about six. Want to get the jump on the clock. I stayed too long in Vera Cruz anyway, and it's high time I was getting out of this rotten Mexican climate of yours."

I went back to Lena Aporius.

"Can you be ready to start by tomorrow morning at six o'clock, gracious lady?"

"In the airplane?"

"I have spoken to Lieutenant Baker."

"Oh, thank you."

She reached out both hands to me, and seemed to be simply overwhelmed by her own good fortune in having this simple wish gratified. But then she left me, running away like a little girl, and only stopping to cry over her shoulder, "Well then, I'll see you in the morning. Don't worry; I'll be at the train right on the dot of six."

● I saw her smile, and was astonished that such a change should come over her in so short a time. I wondered whether, after all, it was not a matter for a more simple explanation than I thought. She was half-American—perhaps it was only the excitement of such a flight that had carried her away.

Miss Leeves came over to me. She seemed to have changed; ordinarily a gay, carefree American girl, she was very much in earnest.

"Excuse me, Doctor. You are going to leave with Lena Aporius the first thing in the morning?"

"I hope so."

"Nobody knows Lena as well as I do. Do you understand—nobody!"

Her eyes had something painful in them, and she stamped on the floor as she spoke.

"I believe it."

"No! You don't believe it. Moreover, it isn't possible that you know anything about me, nor about how close to Lena I am. Everybody in the world thinks she's off her head. I tell you, she isn't, not one bit. But she believes absolutely that her father is still alive and—she believes in dreams. But she is perfectly sound and with a good mind. She's clever. Doctor; I assure you that I wish I were worth a tenth as much as she is."

"My dear Miss Leeves, I am perfectly sincere, I assure you, when I say that I hold Miss Aporius in the highest honor, and when I add that I will spare no effort to be worthy of the permission to accompany her home to Germany."

Miss Leeves examined me curiously for a moment.

"That sounds a little bit like a made-up polite phrase. Give me your word of honor that you will never doubt her sanity."

She looked at me almost anxiously, that little, worried girl, afraid of something about which she was not quite certain.

"If that moment should come (and I do not for a second believe that it will) when I should doubt her sanity, it will be a pleasure for me to recall the promise I now give you."

"Word of honor?"

I pressed her small hand hard, then let her go to follow her friend to the upper floor.

Dr. Leeves had something else to say to me.

"I am very happy, Doctor, that she is so willing to go with you. Between you and me, it was high time."

Lost in my own thoughts, I accompanied Lieutenant Baker over to the Hotel Saenz, where we both had taken rooms without knowing the other was there. I was glad that the Lieutenant went to his room at once, for I wished to be alone to think out the events of the day. My own nerves were a little upset—the meeting with Lena Aporius, her great eyes that often held such a distant expression, the doubts of the medical man about her sanity, his worry over her and the curious earnestness of young Miss Leeves.

Certainly it was an interesting journey that lay before me. Would it bring me fortune or misfortune? I felt that the result lay in the hands of Lena Aporius.

In the morning she was on time at the railroad station, accompanied by the whole Leeves family. She was only a young girl after all, I thought as I looked at her, young and gay, with bright cheeks and laughing lips.

The trip began wonderfully well. All through the morning cool of the mountains we went down the long gradient toward the coast through clear, bright air, where one could see for miles. Toward

noon we reached the high point of the mountains at Humanitla, and then turned down again toward Orizaba. Lena Aporius was excited, conversational, eager, but both of us avoided, as by common agreement, the subject of the forthcoming journey as well as that of her father. We were not alone in the compartment; a Mexican family on their way to Orizaba shared it with us, and it annoyed me to see how Lena chatted with the Mexicans in Spanish, almost as though she wished to avoid the use of the language that brought us so much nearer together.

Lieutenant Baker, for the most part, sat silently, staring at his newspaper. I felt a little uneasy about the change in him. Was this the young companion I had known in Panama who so gaily walked around the mountains with me? His lips were pressed together and he shivered slightly every now and then; it worried me. It was well after noon when we saw the peak of Orizaba sink away behind us, and the heavy mountain-locomotives were uncoupled at Paso del Macho for us to sink down into the flat plainlands of Vera Cruz, glowing with the perpetual fever of the sun. Toward eight we slid into the city itself. It seemed to be still baking in the heat. Lieutenant Baker, who had hardly said a word for hours, raised himself up.

"Let's go to the Hotel Mexico, if it's all right with you. It's not much better than the rest, but at least it looks out over the water."

We passed through miserable streets in a miserable horse-drawn carriage. Along the edges of the roofs were perched the vultures, the sanitary-police of this wretched town. The air was heavy, muggy, uncomfortable, as though loaded with a thousand fever miasmas, and it seemed to weigh one down to the very ground.

We came to a tiny hotel, dirty and ill cared-for. The stairs and corridor doors were iron gratings the better to let a little air pass through.

The whole town is like a dead city, since when there is not an incoming or

outgoing ship, nobody stays in Vera Cruz unless he has to.

They looked at us, astonished, until they recognized Lieutenant Baker as the man who had the airplane at the landing field.

● All of us had become silent. After the Paradise of Mexico City, Vera Cruz was like a descent into the infernal regions. Without appetite, we sat before the metal table, only Lena and I, for that matter, since Lieutenant Baker had gone out to the field to look over his machine.

But even we two found little to say. Lena was quite exhausted by the twelve-hour train journey, and I was wondering whether we ought not to have taken the other route after all.

It was eleven o'clock, and Lena had already been in her own room for an hour when somebody knocked on the door and I opened to see Baker.

"For Heaven's sake, Lieutenant, what's the matter?"

"I don't feel good."

"What's the trouble?"

"*El Vomito*—the yellow fever!"

"You're crazy."

"I feel it."

"But, for heaven's sake—"

He ground his teeth together, and in spite of the heat, had to suppress a convulsive shivering. Then he laughed.

"It may be that I'm over-nervous. If you've had it once, you never catch it again. I haven't had it yet but—I'd like to leave right away. Do you want to go?"

"Now? In the night?"

"I'd rather dump in the ocean than spend a night in this nest of all the fevers."

"But—"

"It's all right. It's a very clear night and impossible to miss the way, simply straight flight toward the east. Do you imagine Miss Aporius is asleep? We can breathe again once we get into the air, and I feel that I'll use all my energy up for nothing if we can't start soon."

His demeanor frightened me. He was one of those men of iron will who will

permit nothing to turn them aside. And yet I was anxious. What if he were really sick? What would we do—wait here for days till a ship came?"

"I'll ask Miss Aporius."

I tapped lightly at her door. The crack at the side of it showed me that she still had her light on.

"Who is it?"

"Me."

"Come in, please."

How calmly, how quietly and trustingly she asked me in, during the middle of the night. She was all dressed, and her eyes expressed a kind of nervous excitement.

"You weren't asleep?"

"How could anyone sleep here? I'm counting the minutes till day comes and we can get away from here."

"Lieutenant Baker wants to leave at once."

"God be praised."

I looked at her. Was she also a victim of a fever? This excitement was not to be explained by the fact that the night was hot and oppressive—at least not by that fact alone.

"Are you afraid of the fevers too?"

I had merely said it in order to make a remark. She looked at me uncomprehendingly.

"What do you mean, fever?"

I was silent. Why, then, was she so uneasy? This nervous, staring glare in her eyes, what did it mean? Was Doctor Leeves right about it after all? But as I stood there, she had gotten on her traveling cloak and collected her baggage. An airplane naturally cannot carry much, but she had packed all she could into one single small suitcase, even as I had done. Our heavier baggage was following by rail.

"All right, Doctor, come along."

I had the impression that she was acting almost mechanically, as though walking in her sleep. The Lieutenant was standing at the bar, as we approached, downing a good-sized glass of whiskey.

"Are we going already, Lieutenant Baker? That's really very nice of you."

I had a momentary pang of jealousy as she reached out her hand to him, but he seemed not to notice the gesture.

It was only a little distance to the plane. Now, in the night, the houses of Vera Cruz stood dead and silent under their flat roofs. Not a person was to be seen. Nowhere was there a single light, nothing to see but the forms of the vultures along the edges of the buildings; when we went past, they woke to disorderly screamings. Then a couple of workmen, sleepy Mozos, helped the Lieutenant get his machine out into the open space of the field. The motor began to turn and roar. We had to sit close together in the cockpit—very close together, Lena and I, so that I could feel her move against me. Coats were unnecessary, but we had taken light wraps and the Lieutenant packed us in. Then he took the stick, and I noticed that, as he got into his seat, he seemed to sink down into place.

I shivered. It was senseless to fly out over the sea with an aviator burning with fever, for the Lieutenant had certainly been stricken.

I wished to leap up, to get out and away, but before I could make a movement, he had raised his hand.

"Contact!"

The Mozos held the wing tips, but already the motor was running at full speed, and I heard the light rustle of our wheels across the sand of the landing-field. We pitched slightly—and were in the air! A comforting, delightful breeze whirled past us, and we breathed deeply. At the moment of the take-off, Lena had gripped my hand convulsively. I touched her shoulders lightly with the other hand and she made no objection.

● How comfortable it was up there!

Under us shone the few isolated lights of Vera Cruz. The airplane was mounting into the sky in a long series of spirals, and then suddenly the beach, with its white line of foam, shot away underneath us.

All around everything was still. We could see the waves down there, but could

not hear a murmur from them, could hear nothing but the steady, regular beat of the motor.

We did not look around. I did not dare move or change my position for fear Lena might let go my hand that she still held.

I gazed at the Lieutenant. He sat there as though cast in bronze; even the shiverings had left him. His hands held the stick steadily and without wavering. My anxiety began to leave me. He was completely master of the ship. Perhaps, after all, his illness had only been a kind of nervousness, or the desire to be again in the air which had become as much his home as the ground.

The moon had set, but a fine, gentle rain was falling on the wings of the machine. By the light of the instrument board, I glanced at my watch.

"Of course. One o'clock exactly. The rain is always on time in the tropics."

At this time of year, every night between one and two o'clock we had a shower of rain and a little thunderstorm, always punctual, almost to the second.

The lightning flashed out and the thunder rolled across the ocean.

It was a fantastic journey. The sky was absolutely black. The clouds had covered it like a mantle. Out of the black depths beneath us flashed brilliant white lightning, showing the black sea beneath with its rows of whitecaps which seemed to be bowing before the pressure of the rain. The wings of our plane were white on either side, and the glow of St. Elmo's fire ran along them from one end to the other. I looked at Lena. Involuntarily my own heart was beating faster. We were between heaven and the open ocean, in the midst of a thunderstorm. Of course there would be no ship anywhere near, down below. If the lightning should strike our lightly built craft, if some whirlpool of the storm should upset us, we were lost beyond any possibility of rescue. I trembled, not for myself, but for Lena Aporius. I turned toward the Lieutenant. He must have known of the existence of this nightly thunderstorm. Why had he

not waited in Vera Cruz, at least long enough for it to be over?

Once more there was a flash of lightning and my eyes sought Lena again. I believed, I hoped, that she was hidden in the depths of her wrap, that she was not looking at the frightful prospect—but her eyes were wide open and very large. Her face was pale, as though she had fainted. And as I looked, she turned to me with an expression, not of fear, but of pleasure.

"How beautiful!"

I was ashamed of my fears, and yet—

Punctually at the end of the hour the thunder ceased around us and the stars looked out from their blanket of cloud. It became decidedly cool, almost freezing, in fact. Beneath us the long roll of the ocean stretched away, and above our heads millions of stars streamed with an unearthly light. We drove along between the two, the stars and the sea, almost soundlessly. It would have been an insult to the picture to speak. The whole flight through the night had something unreal about it. Then, far in the east, we caught the first gleam of the awakening sun. Minute by minute it rose up like some giant bird with wings of light. The drops of water that still stood along the edges of the wings shone like jewels in the first rays. And then, far beneath, I saw a low, dark streak that seemed to come nearer.

Land! The coast of Yucatan. I felt that Lena Aporius was suddenly pressing my hand.

"Do you see it there?"

For no more than an hour we followed the coastline along. And now our plane made occasional slight dips. Lieutenant Baker's hand seemed to have become uncertain—or was it that he had spent all his strength in the struggle with the storm, and now that we were out in the open and nearing our destination, he had become completely exhausted?

Before us lay a hilly district, a many-mouthed river, a long line of low, flat houses, surrounded by blooming gardens. It was almost as though an odor of sweetness from the beautiful orange-trees beneath could reach us.

Campeche!—the delta of the Franciscus River!

We circled down, close by the city, on a cleared field, and saw astonished men hurrying toward us. How cleverly the Lieutenant had handled his machine! The wheels rolled across the hard ground, the motor's drumming cut off. Helping hands from the side aided us to undo our safety belts, helped Lena Aporius out of the seat and reached up to aid me. And then, for the first time Lieutenant Baker lay in his safety-belt, unconscious. A man stepped toward us.

"I am a doctor."

He looked for one moment, then nodded at what he saw. "*El Vomito!* The yellow fever! Get him to the hospital quick!"

What a marvelous power of will, with the fever in his limbs, had carried that Lieutenant out across the sea in his airplane!

● We were taken to a hotel, and as we were on the way, we looked at each other with unbelieving eyes, but we were still healthy. Lena was wonderful. She only thanked Lieutenant Baker for her life, which he had held in his hands that night. I felt that I had begun to understand her a little, ever so little. It was no lack of feeling with which she regarded the aviator; it was because her mind was altogether busy with another thought, more important to her—her father.

While the host was busy getting breakfast for us, I asked him whether any ship had come into the bay there, and whether the name of Wenzel Aporius was known to him. He shook his head and Lena smiled. She smiled like someone who hears someone else saying something foolish.

"My father isn't in Campeche."

I gave over my questioning, for I didn't wish to let too many people know how I felt, and especially how she felt. They might get to doubting her sanity like Dr. Leeves. As we were eating, Lena at least, with the best of appetites and in evident enjoyment, the doctor came to us.

"Do you want to see the sick man again?"

"Certainly. I would be ashamed of myself if I didn't go see him."

"It's the yellow fever."

"Is he going to die?"

I compelled myself to put the question quietly.

"I don't think so, but he's a very sick man. It will keep him in bed for weeks."

At this moment a thought struck me.

Weeks in Campeche! We couldn't hope for a ship there for a long time. Weeks in isolated, lonely Campeche. I bit my lip.

But weeks with Lena Aporius in Campeche! I didn't know whether I ought to be glad or sorry.

Lieutenant Baker had come out of the shaking fit, and was fully conscious.

"No, don't give me your hand. My hand might bring you death. Only one request. I can't carry on."

"I thank you."

"What for?"

"For your wonderful energy and courage which saved our lives."

"Your thanks aren't especially necessary. I wasn't really thinking of you. The airplane must be in Havana in three days, my orders tell me. It would be the first time in my life that I wasn't on time."

"You're sick."

"That's no excuse as far as I'm concerned. What do you want to do in Campeche? Wait until you catch the fever too? You know how to fly a plane as well as I do. Take the girl with you and fly to Havana. All you have to do is say to Commander—"

A new shiver went through him.

"Promise me—"

"I must beg—"

The doctor led me out. Two hours later I sat in the hotel again.

"You mustn't visit the Lieutenant again for a couple of days. I won't have him upset for anything. It would jeopardize his chances of recovery."

"You must have heard."

"If you know how to fly that airplane, I strongly advise you to do as he asks. He

keeps demanding that you do it, in his delirium."

I imagined that the doctor was quite willing to have us leave the city. He couldn't be certain that we, too, did not have the germs of fever developing within us. I went to Lena.

"The Lieutenant is sick."

"But we can't stay here!"

I told her about his request.

"Good. Let's start out right away."

She got up to go get her things.

"As far as Merida, I think I could handle the machine all right. It's only about a hundred miles or so."

"Probably we won't need to go any farther."

Already she had come back to this thought again. I was silent, thinking.

"I'll try out the plane and see."

The doctor had already remarked that the whole airplane, and especially its cockpit, had been well disinfected. I was grateful to him for the kindly thought, though somewhat doubtful of its efficacy. I hardly dared think of what would happen if I caught the disease as well. Lena alone! In her blind, unreasoning faith in her father's life and her desire to get to him, she was quite capable of venturing into the wilderness alone.

I made a short trial flight; the machine worked well under my hands.

We ate, and I packed my rucksack with a store of preserved foods and put in a Primus stove for luck. We ought to be prepared for an emergency landing, I felt; and with these preparations complete, I sat down to study map and compass. I would willingly have waited until the following morning, but both Lena and the doctor urged me on, the one out of impatience, the other because he wished to be rid of us. The route was not a difficult one. Campeche and Merida, the capital of Yucatan, are united by a railroad line. We might also have taken this road, it is true, but the airplane was better as it would carry us right on to Havana. At all events, it was a comfort on my first flight in several years, to have a railroad line I could steer by.

● A hundred miles in this quiet weather and with such a powerful motor as the biplane had, was a mere frog-jump. But the trip was not as beautiful as the one through the previous night. Then I sat close to her, very close to her, and she held me by the hand. This time I was all alone in the pilot's seat, and it was impossible to exchange a single sentence with her.

It was still clear light when the brightly colored houses of the little city stood beneath us. We came down, swept to a landing, and got out, but had arranged in advance to say nothing about the attack of yellow fever which had stricken down the lieutenant.

I helped Lena Aporius from her seat. She had altered strangely in expression. At first I was afraid that she too was sick, but then I saw that it was not illness, but an overpowering weariness that affected her.

"What is wrong, gracious lady?"

She even had a few teardrops in her eyes.

"My father is not here after all, and I had so expected to find him."

"We can ask."

She shook her head.

"Don't bother. I know, now that I see it before me, that he has never been in Merida. I have never been here before."

Was her brain tiring also?

"How soon can we go on?"

"Certainly not tonight. It's already evening and there are clouds piling up over the wild country there, where we'll have to fly, as well as over the Caribbean Sea."

"Over the wild country!"

She seemed to become more cheerful.

"In the morning! We'll go in the morning, certainly, won't we?"

"Certainly."

We went to the tiny hotel.

"Please don't think it impolite of me if I go to bed right away. I'm tired and I must be fresh in the morning. We're surely going on then, aren't we?"

"Surely."

I felt sad, and spent a couple of hours wandering restlessly about the narrow

streets of the little town. I wanted to think things over by myself. Lena was not herself. Of that I felt quite certain. The deprivation of her father, her longing for him, had somehow changed her—and then I remembered that I had given Miss Leeves my word of honor never to doubt her sanity.

Well, then—at least one thing was certain: we must leave in the morning. Everything had gone so well for this day. Granted that tomorrow we had a jump of over three hundred miles, but the motor and plane were in perfect shape and it could not be so terribly difficult to find the way. Once we reached Cuba, the troubles would all be over; there were men there, doctors, Europeans, and steamers leaving daily for home.

I spent a sleepless and uncomfortable night. I still could not get from my head the idea that everything seemed agreed upon, that Lena was the victim of a fixed idea. And morning came upon me before I had gotten half the sleep that was my due, and when I descended to breakfast, I found Lena all clad in her traveling clothes.

She looked happy. I knew that she felt certain that on this day at last she would find her father, and as I felt that I could not bear to hear her say that, I asked her no questions.

Early in the morning we went out and took off—and then, after we had already been an hour or more on the way, the weather suddenly changed from good to bad, the storm whipped up, and our airplane went down in the midst of the wilds at the foot of the little hill crowned by that ancient tower of the Toltecs.

CHAPTER III

The Uncanny Noises

● Two people, they are, altogether alone in the midst of the wilderness. They sit opposite each other in a fantastically old tower, between them the sacrificial stone on which steaming coffee stands ready, together with a provision of the best white bread and preserved fruit and

meat, as though they were in the midst of civilization, and both of them were sitting quietly a moment in some café, each thinking his or her own thoughts.

Lena looked up and smiled.

"But we're letting our good dinner get cold. Certainly you must be hungry, my friend."

She passed me the coffee, not at all as one would in civilization, for the vessel was not the conventional coffee cup of the salons, but a battered aluminum dish for campers, and then looked at me again.

"I'm really not crazy at all," she said.

These half laughingly, half sadly, spoken words went through me like a blow.

"My dear Lena!"

"How queer that is. Now here we sit together, all alone, cut off from the whole world, and we haven't yet found a moment to talk about each other or to learn to know each other."

It was true: when I remembered that, except for that brief meeting in Panama years before, I had really seen Lena for the first time only four days before in Mexico City, that during the railroad journey we had hardly exchanged two words with each other, during the night flight not a word of any kind, and during the few hours in Campeche and Merida we had had no opportunity to exchange words, and that during our flight out here, she had sat behind me in a position where she could say nothing! And last night Lena had fainted, and now here we were.

"Truly, we haven't really talked with each other at all, and yet I feel as though I had known you for years."

It was the same with me. Lena smiled as she drew from the big thermos case that Lieutenant Baker had packed clear back in Mexico the fresh butter and hard white bread it contained.

"Do you believe that I would have trusted myself with you if we had not really known each other for years? No, don't make faces like that any more, as though you were speaking to some crazy person; I know what you're thinking. Just listen to me. You have never known my

father. You don't understand how close we are to one another. Father is a genius—the greatest genius of our time. And the world imagines that so much genius, the greatest genius of our time could be extinguished without a struggle in the ocean—it's absurd, I tell you! No, no, I don't know—I'm not being just obstinate, but I have more respect for the divine order of things than to believe that. I can't believe it. I can't believe it and—listen to me—I won't believe it. I won't! All through the years I have stuck to that idea. Have you ever investigated the occult at all? No? Nor I either, and I'm not just making up a story about something, but there is something I do know as a certainty. I know that when such a master spirit as my father's passes from the earth, there must be some reverberation of it. Would I not, his only daughter, his helper, feel it in some way if it were true? And I have felt nothing of the kind! On the contrary, during the days when the *Prinz Christian* is supposed to have hit the mine and gone down, I was particularly happy. Have you ever danced in San Francisco? And do you think I could be dancing there while my father drowned and not know anything about it? No, no, never!"

"Miss—"

"Don't interrupt me! Then came weeks of sleeplessness, and weeks when I doubted. And then—and then I began to sleep again and every time I slept I dreamed, dreamed of my father, of my beloved father, who was so close to me. I dreamed of him almost every night. But it was never of him as I had seen him before we left Germany, and no more did my dreams ever show him to me dying or dead. You might think that I would dream of the shipwreck that was supposed to have been the last of him. Not at all.

"But the queer thing was that I never dreamed of seeing him but always of looking for him. I was looking for him with hope and with an inner certainty of finding him.

"I was looking for him in a wild and lonely waste. I saw houses, small very

curious-looking stone houses, such as I had never seen anywhere during my waking hours. And in my dream I knew that in one of them my father lived, although I never reached the point of seeing him.

"And then again I would dream of being on the way to find him, and beside me was someone—"

Lena stopped. She had blushed deep red and turned her face the other way, and I saw that her breast was heaving with emotion.

"In my dreams there was by my side a man I did not know, and when I first saw you—"

She stopped again and laughed.

"It's probable that the man in the dream looked altogether different, because you know you can't recognize dream faces clearly, but when I saw you for the first time, I believed that we two together could—perhaps you remember—it's all so queer—it's—"

I was in earnest.

"No, Lena, go on, please. Don't stop."

"I saw in my dreams stretches of country that I did not know. I told you about the little houses—and then, there were other dreams in which I came back again and again to an ancient stone tower, and this man I didn't know was always beside me. It is comical—but I felt so unhappy when I saw that neither Campeche nor Merida contained the little stone houses I had seen in my dreams—and then we came to this tower, and I knew it at once. I have seen this tower in my dreams, not once, but many times. It protected me, and then we left it, the man I didn't know and myself and we went out in the morning from this tower, straight eastwards into the clear sunlight and I was sure that I would meet my father this time.

"It was a dream, I grant that, but a dream that has come back to me so often. And then I used to think about it, and try to look at it reasonably. You know how a drowning man clutches at straws. Don't blame me if I clutch at my poor dreams in the same way. Naturally Dr. Leeves laughed at me when I said anything about

it, but Maud used to help me and believe in me. We studied maps together. Where could the wild coast be where he had landed without people, at least without civilized people knowing anything about it?

"Where else could it be than on the coast of Yucatan somewhere? Perhaps—very unlikely, but still it was a possibility. I wrote to various places, I had inquiries made. They were all futile. And finally I could no longer stand the pressure they were always putting on me there and made up my mind to give the whole matter up and go home.

"It was ridiculous, but the moment I made that determination the dream came oftener than ever. Perhaps this was altogether natural because it was growing nearer and nearer the time when I would have to be leaving America.

"And then you came along, and I thought I recognized in you the man of whom I had dreamed. Then came the Lieutenant and the chance to fly over Yucatan.

"It is of course possible that the whole thing has become a sort of fixed idea with me. I recognize that, just like the straws at which the drowning man clutches. I want you to know that I haven't been deceiving myself about it, though. I have imagined it altogether likely that we will find nothing at all. That is, in my cooler, intellectual moments I imagined that there was nothing in the idea. But I felt that I would derive a real comfort from flying over Yucatan and being certain that the country there was altogether different from what my dreams had pictured it for me.

"And Merida and Campeche were altogether different.

"But now? Doctor, this tower here. I have seen myself sitting right here in it, just as we are now, and I saw the sunlight on the big cactus, just as we saw it this morning, and the shadows of the forest, and I knew it all immediately for my dream country, in which I had been so often, and through which I had made my way with the man, hand in hand, with the

certainty that I was on my way to find my father."

● Lena stopped and for a time neither of us said anything further. Outside, the twilight was closing in, the short tropical twilight that turns so quickly into night.

She gripped my hand.

"I'm not really crazy, I—"

The tone went to my heart.

"Lena, with all my heart I will help you to bring your dream to a reality."

She came close to me. There was anxiety in her voice.

"Do you really believe that I'm all right?"

Almost involuntarily I laid my arm across her shoulders.

"Yes, Lena, my dear, little Lena."

For a moment she leaned against me, then drew herself away.

"But we really haven't been eating anything at all."

"And haven't made any preparations. We must not, after all, trust ourselves entirely to fate. I'll go get some wood together."

I ran out. In my mind there was a certain feeling of strangeness. It was a sense of good fortune, based on the certainty that Lena was perfectly sane, that there was nothing wrong with her but her curious dreams that seemed to master her to such an extent. I knew that she would forget these dreams as soon as she discovered that the route we were following was in no respect like that of the vision. I knew that when she had made this discovery I could take her back to Europe in perfect peace. Naturally, in that case, I myself would be stripped of the mantle of romance with which she had surrounded me as one of the personages of the dream. But another thought came to me in the same moment. What if the dream were right? If we really—? I shook myself, but I could not avoid noticing that the idea had even excited me.

I gathered a great pile of wood together. Lena came out and helped me take it into the tower, where we lit a good-sized fire.

Then we pushed back the big stone that covered the entrance and which I had rolled away, and added as many small stones to the heap as we could conveniently gather. If some of the Indians should lose their superstitious fear of the "gods" during the night, it was good to feel that the tower had only one opening and that we had at least two revolvers for our protection.

Lena had changed; it was as though her confession had rolled away a stone from her mind. We warmed over the coffee which we had forgotten during our conversation, and sat down beside each other to make our repast. Now, for the first time since we had left Merida, twenty-four hours and more ago, we were at ease.

"Go to sleep now, Lena, and let me keep watch."

She laughed, and stretched herself out on the pup-tent which I had brought in to form a kind of crude mattress.

"All right. I'll sleep now, but if you're tired, don't forget to wake me up, and I'll keep watch for a while."

She cuddled down into the blanket and closed her eyes. How trustfully she did it!—with me, a man quite unknown to her, sitting there. And as I watched, a smile of contentment wreathed her lips as she drifted off to sleep.

As a matter of fact, I could not avoid the thought that she was trusting not so much in me, as in the dream-being I represented for her. How much I loved her!—and how beautiful she looked lying there, asleep, in that narrow place. I had always honored the memory of Wenzel Aporius, the great inventor, as that of a great man, but as for him personally, I had never quite thought of him as a person. And now it had come about that I was seeking him and that our lives were so strangely bound together through a thin life. Perhaps he was still really alive.

Perhaps not, also. But at least I would fulfill my duty to my love.

How silly of me, I thought. I'm beginning to believe that he is alive, too.

It is curious how exactly according to

schedule night in the tropics goes forward. It was altogether dark. The sudden change from day to night was almost sharp enough to keep one from seeing the stars. And at once the howling monkeys began their evening concert, followed by the shrieking of the parrots. It was as though the animals were trying to relieve their fear of the dark by making these weird cries. Lena looked up; she had already slept an hour or two, and when I assured her that it was all right, she smiled at me.

"Good night, then!"

And now once more I saw the fireflies all about, and then heard the rustling of the forest. Were the Indians to appear as they had on the previous night?

I sat near the single opening of our tower, which, though built nearly to the top with stones, still allowed a narrow window for me to inspect the night, and looked out with a feeling of annoyance. After all, were we not behaving like children?—to sit here in this tower, and on what was the highest point of land for miles, to make a fire that must be visible for any distance. But my fears were not justified; nothing moved in the dark.

● I was exhausted; my eyes must have closed for a moment before I looked out and around again. When I did so, I saw that it was thick black outside, and raining. I glanced at my watch by the failing light of the fire. One o'clock exactly. Let's see, it had rained last night at the same time—would rain until about two. The only difference was that this time there seemed to be no thunder or lightning. And now for the first time, I remarked that I must have slept a few hours on the previous night also, for I remember having had a kind of dream of rain, but not seeing it clearly.

Tonight the pattering of the drops among the trees, the running water coursing from the rain-leads of the tower, seemed to rouse my nerves. And then there seemed a new sound, composed of a thousand little rustling noises that made me wakeful and watchful.

The hour passed and then—I sprang suddenly to my feet, and Lena leaped from her bed beside me.

An unreal, an incredible shriek rang through the night. A high, shrill piping, it was, like that of an enormous factory-whistle, then a deep, long-drawn howling that was echoed back a thousand times from the wood.

Lena gripped my hand. I felt that she was trembling.

"What was that?"

"I don't know."

"Could it have been the voice of some animal?"

"No animal that I have ever heard of cries like that. An African lion might, for all I know! The puma and the jaguar certainly don't, and they are the largest animals in this part of the world."

"Could it be an Indian signal?"

"Impossible. Where would they get a trumpet that makes a noise like that?"

"But then—what is it?"

My memory faltered.

"I imagine, I believe that last night it was the same sound that woke us up."

"You're right. A shriek of some kind woke me up in the night then, too. I dreamed that it was the whistle in my father's factory."

"But no factory whistle is like that."

"But what was it? What was it?"

"It's just two o'clock. It must have been exactly the same time last night. Perhaps it is some natural phenomenon, the result of the rain, which falls every night so regularly. Has anyone ever explored all the secrets of this jungle? Remember the singing sands of the Sahara."

"It doesn't seem to make the animals of the jungle uneasy."

"Which is a proof that it comes back regularly every night and they are used to it."

It was impossible to sleep after that. The clouds had been swept from the skies and the Southern Cross stood clear and bright in the heavens above. Down there among the agaves and the sisal the bright lights of the fireflies were at play,

and a few moments later some of the sleepy birds of the forest began the first notes of their morning songs.

"We must eat a little something for energy's sake, and start right out at sunrise."

She pressed my hand.

"Toward the sun—eastward."

I knew what she meant, and not wishing to make a definite promise, avoided the friendly pressure. She leaned against me and began to weep slowly, gentle, soft tears. I felt that if I lifted her face and kissed her she would not have tried to prevent it. She was so grateful to me because I was trying to believe. But I only stroked her forehead gently.

"My dear, dear Lena."

She broke away and gave a little laugh.

"We must get breakfast."

How happy I was that I had not yielded to the impulse. A single kiss, even though it had been harmlessly meant and taken, would have destroyed the harmlessness of our comradeship.

Soon the water was boiling in the little kettle and we ate and drank. We ate, unworried over the fact that in so doing we destroyed almost all that remained of our little stock of provisions. The speed of our flight had quite deprived us of the common sense to realize that our journey on foot might last for weeks yet. At least Lena was completely unworried, and it seemed to make no difference to her whether we ate our food now or some time later. And the longer Lena did not realize the perils that stood before us, the better it was for both of us.

We had not much to pack up and carry. There was the almost empty provision case, which now contained nothing but a few little toilet necessities, the Primus stove with its supply of condensed fuel, and then the single blanket, a couple of light wraps, the revolver, the glasses—and then a tiny, very tiny, case with a few extra shells for the revolver.

We looked around the tower once more, and I tried to make a little joke.

"Thank you, good God Tezcatlipocha, for letting us use your house!"

I had built up the fire once more, and piled a few big sticks of wood on it. It was a good idea, as long as the Indians believed that the evil gods still dwelt in the tower, to give them something to worry about and keep them as far away as possible from the human beings who were moving about there.

● The rising sun had a wonderful beauty.

It was six o'clock when we started out. On all the leaves about us, the drops from the nightly rain still lay bright and shining. Little, gayly colored salamanders ran across the ground at our feet; birds soared over our heads among the trees. Great, brilliant butterflies, humming wasps, whirled about in the air past our heads and drank from the great red and yellow blossoms of the hibiscus. Naturally, there were no trails anywhere; which way should we go, and how should we direct our footsteps? But before us, leading between the tall sisal bayonets, there lay a broad, empty path, like a made street or alley, and as chance would have it, there were a few banana plants right by the side of this path, tempting us on into it.

I hoisted our slender baggage onto my back and hung my revolver at my side, as Lena Aporius strode along at my side, as gay as a child, holding my hand. I let her do it without comment, knowing that all the time she was thinking of her dream. She was really like some little child, going for a walk in the park, and the thought made my heart heavy. Where would this walk in the park lead us?

An hour went by. Long since, the way we trod had got worse, and the tower had disappeared behind a pushing grove of palm trees. At first, Lena, playing along, had plucked ripe pineapples from the branches to stick them into my rucksack, where a delightful odor escaped from the white, rough-skinned fruit, while I gathered some other smaller fruits. But then the sun began to burn. I had chosen the way eastward because it seemed to lead in the most direct line toward Valladolid, and moreover it gave us the opportunity to keep straight along not far

from the banks of the little stream which would furnish us with water.

It became hot. We had to stop for a rest. Neither Lena's city shoes nor her city-bred feet were prepared for long marches.

We ate of the fruits we had gathered, and Lena became cheerful once more. But her laughter was not quite as genuine as before—her feet hurt.

The country became more and more level, but also more and more wild. Whole stretches of it would be covered with a tangle of splintered stones that hurt our feet as we walked over them. The shadow-giving trees became rarer and rarer along our way; the piled-up stones wove into a tangle of ever-narrower passages with sharp steps that tore our feet.

Lena Aporius said no more. She had taken me by the arm, and I felt that she was exhausted.

A little group of palms was collected about the crest of a small hill ahead of us.

"Let's get up there and rest. We can stay there for the remainder of the day, and tonight, when we have starlight, go on again."

She nodded, her expression painful. I almost had to drag her up the hill. We had only gone on for eight hours, and already her strength seemed to have altogether given out, and it must be admitted that eight hours in the glowing heat of the tropical semi-desert is no light task.

I found a little carpet of moss among the palms, and while she lay down to rest, I sought water for our little kettle.

She had taken off her shoes and stockings, the light city sport-shoes that she had donned for the flight, and I noticed how torn they were and how nearly gone were the fine silk stockings. She had another pair with her, but certainly the same thing would soon happen to them when we took up the march again. Completely tired out, she had closed her eyes and, without moving, permitted me to bathe her feet in the cool water, after which she fell off to sleep almost at once. I stood up and looked around. Our position was certainly not of the best, although the palm-grove

would certainly give us adequate protection against the storm that might come up that night.

I pulled the blanket over Lena, but tired as I myself was, I had no time to rest for the present. I looked around once more. Everywhere around us there was little visible but the waste of stone and cactus, a tropical desert, starred by the high, sharp bayonets of the sisal, with here and there an agave showing its brilliant bloom.

Everything was still, and yet all around there seemed to be a faint humming—the buzz of the heat. Even the voices of the birds and animals had sunk to silence.

I went down to the brook again. It looked very tempting, and I finally yielded and pulled off my clothes, certain that for some time to come there was no fear of Lena awakening, then dived in. It was not deep; I could barely lie down in it, and I thought with a shudder of what would have happened had it been necessary for us to wander in this waste country a few weeks later in the season, when the burning sun had fully overcome the water of such small streams.

I wandered further in my tour of inspection, swimming down in the lukewarm water, which I found very refreshing, but in a moment I was springing out again, with the unpleasant discovery that I had been attacked by a whole colony of leeches. But after I had freed myself of these uncomfortable companions I felt once more refreshed and strong.

● I walked farther down the edges of the brook. I hated to leave Lena alone like that, but in this place and this time of day there was nothing to be feared either from wild animals or wild men. When I had walked on for about an hour, my ear caught a new sound—a rushing roar that increased with the passage of every minute, the rushing of a stream! That aspect of the country around changed rapidly. Once more the trees sprang up—palms with their long waving fronds, even one or two gnarled tropical oaks; and then

the ground was moist about me. Pine-apples and vines appeared—hello, here it was really moist enough to be called a marsh! The brook took a sudden turn, and then I was surprised to find myself standing on the bank of a good sized river.

Where was I?

In any case it was a cause for rejoicing—a great, wide river! I tried to remember. It certainly was not the Maratin; we were too far along for that. Would it be the Talun? On the maps that I had consulted, there was, unfortunately, much white space in the center of Yucatan. East of the Maratin I knew of only two rivers, the Talun and the Pamai, but both of them were shown only for a short distance where they approached the coast, and had not been explored into the back country. This stream might possibly be the Talun or an affluent of that river, swollen by the rainy period through which we had just passed. But whatever the case, that river was nothing less than our salvation. It is always possible to meet human beings along the bank of a river—perhaps traders, even. I turned back. For the first time I now noted that I had pushed on for a good two hours and had a long return march ahead of me. It was fortunate that the sun had gone down considerably.

I was bathed in perspiration when I reached the hill and its palm-grove once more. It was a perspiration of fear, for I had imagined I had missed my direction a hundred times. I imagined with panic terror what would happen if Lena found herself left all alone and then, just at the last moment, I heard her calling to me. She was standing among the trees beckoning and had seen me before I saw her. When I climbed the hill, she met me with a smile—joyful once more.

"Were you worried?"

She shook her head.

"I knew that you wouldn't run away from me."

"How are your feet now?"

"They hurt, but that's all right. We'll be at the river soon."

I was dumbfounded.

"At what river?"

"I dreamed so certainly of a great river—we went along its banks and then—"

She sighed.

"And then, you were going to say, we would find your father."

I do not know how I managed to say it. I believe that some of my own doubt must have sounded in my words. She smiled a trifle sadly.

"I don't know—I hope—and then I woke up."

She became excited once more.

"Look here!"

She was not altogether a useless companion in the wilds, this little city-bred girl. From one of the light wraps she had managed to fashion a type of bandage for her feet that fitted them like sandals. They were not very effective footgear, but at least better than the light sport-shoes and quite sufficient to protect her feet against the wounding shards of rock; and for that matter, her feet were rather badly swollen and she might have had difficulty in getting into the shoes.

We started out again, dead-tired though I was, for I felt it would be better if we were to reach the river as soon as possible.

Lena went along slowly at my side.

"We can rest by the side of the river, and build some kind of hut."

"We'll see when we get there."

Basically, I was glad that the thought of her father was carrying her along. A hut? Or a raft? But how would a hut help us and where would a raft carry us?—perhaps to some uninhabited coast where no ship ever came. Valladolid lay somewhere along one of the streams, but this might not be the right one. But I offered none of these comments for Lena's consumption. There were too many troubles near at hand for me to stop to consider those that might be on us tomorrow.

The twilight came, and then suddenly, as before, it was dark. Lena's feet hurt and she hung on my arm. How curious it was. There were a thousand sounds, chirpings and pippings of the twilight birds

and insects. The tall agaves towered along our path like ghosts. I was worried over the thought of snakes. Finally we heard the rushing sound of the stream. We were at our goal at last. Lena sat down on a mossy stone. The evening cool was grateful after our long day's march. My eyes had become accustomed to the dimness, and I was able to see and gather a few pineapples.

We sat side by side.

"We had more than this this morning."

She shivered slightly.

"Wouldn't it be possible to make something hot? You have a little whiskey left in your flask, haven't you?"

"Go ahead, drink some of it, and as for the fire—"

I stopped. I began to wonder whether we could spend the night so simply, here on the edge of the stream. In any case, it was hardly to be feared that we would find Indians about. Once more I left Lena alone for a few minutes. Tonight there was a small moon, a tiny sickle of a moon, but at least it made the night somewhat clearer. I looked around for a place to camp. Before me, something leaped—animal or man?

I snatched out my revolver, but the animal, whatever it was, sprang away from me. I was content. Who knew what a shot might bring down upon us?

I found a great, four-cornered stone with steep edges. Up on top of it there were at least no snakes to fear. I helped Lena to get up on it, and collected moss to make a bed, and when I had finished, we sat up there, close together, while we ate the last of the pineapples. Everywhere around us tiny lights flashed on and off, the lamps of the fireflies, perhaps mingled with fox-fires from the rotting wood that seemed everywhere about on this low, swampy ground. The animal voices came out all around us, monkeys and parrots. Then we would catch rushing and pushing sounds from the jungle as

some larger animal forced its way through the underbrush, down to the river for a drink. Eastward, it seemed that gigantic shapes loomed through the dimness.

If a jaguar—

Lena hunched herself close up beside me. I had wrapped the blanket around both of us. She lay so close to me that I could feel her heart beating rapidly. Our nerves quivered as though in momentary expectation that something frightful would happen.

The hours went past like years. The moon swung down and finally went out altogether. The usual midnight rain began. Although we were beneath the protective coating of jungle leaves, they did not shield us from the thousands of little rushing sounds all about. There was a flash of lightning against the sky above and again impenetrable dark—the dripping of the rain, the snapping of twigs, the rushing sound of the river, and then once more the voice of some animal giving tongue.

But even this hour went by.

"Whether here—"

I had hardly begun the sentence when there came the hellish whistling and howling and humming we had heard on the other nights, only this time much nearer and louder. Lena clung to me.

"What is it?"

Once more it became still. But the silence was broken by a new sound—a sucking and crackling and whistling. Somewhere something frightful was moving in the jungle, on the other side of the river, and it seemed to be coming nearer—something that howled and groaned and trod through the undergrowth with heavy feet. I could think of nothing but a herd of elephants. But there are no elephants in Yucatan.

(What new dangers are approaching? Don't miss the amazing chapters in the next issue!)

TO BE CONTINUED

THE PRENATAL PLAGIARISM

By
MORTIMER WEISINGER

THIS IS A PAID FOR ADVERTISEMENT*

● I intend to send a bullet through my brain as soon as I complete this note. I am certain that society will never accept my explanation of the damning evidence that has already ruined my career. Even I, myself, find it almost impossible to believe, but it gives me some measure of satisfaction to know that of the thousands who may read this advertisement, some will have enough faith in me to realize that I am telling the truth.

You are all familiar with my writings. My books are on the shelves of every library in the country. They have been translated into innumerable languages. I have been awarded many literary distinctions, and only recently my novel, "Compassion," won for me the Pulitzer Prize. Yet now I am accused of being a plagiarist—a literary thief, and it is impossible for me to vindicate myself.

Four months ago I put the finishing touches on my latest book, "The Davis Family," a romantic work on life in the late eighties. I had spent quite a good deal of time on this book. Frankly, I had hoped it would win for me the Nobel Prize. I had taken extreme pains to make the story as realistic in color and background as possible. I diligently studied the community I wrote about. I made many notes. I wanted to be positive that "The Davis Family" would be my most celebrated work. If I were to die, I wanted to be remembered by this book.

All of my friends who read the advance proofs on the book shared my enthusiasm

about it. They, with my publishers, all agreed that "The Davis Family" was the best of my published output. I thought so too.

Vividly I recall the laudatory comments showered upon me when the book was put on sale. Literary critics were unanimous in acclaiming my novel as the most outstanding work of the year, and there was much talk that I was in line for the Nobel Prize. You can imagine how elated I felt.

Returns on my book were very gratifying. For months my work headed the "best sellers" class. I decided to take a trip to the South Seas to celebrate.

You know what happened when I returned. A score of reporters met me at the dock asking whether I cared to make any statements, if I intended to sue the publishers of the New York *Examiner* for libel and slander. They explained to me that the editor of the *Examiner* claimed that he possessed certain unmistakable proof that my latest work, "The Davis Family," was a word-for-word plagiarism from a book with the identical title, published in 1886, by one John Meadows!

I refused to take any stock in the charges of the *Examiner* until I was confronted with a copy of the supposedly original book. In every particular the work was identical with mine. At first I thought that enemies of mine were trying to ruin me. I charged that what had probably occurred was that some rival publishing house had copied my book, and presented it as the work of an 1886 writer. But a group of investigators quickly proved to me that the book I held to be false was really authentic. The paper and printing attested to its age.

Moreover, I was shown photostatic copies of book reviews of "The Davis Family," taken from the August 1886 issues of the New York *Sun*, *Herald* and

(*This document was found beside the body of Daniel Cartright, well-known novelist, with the instruction that it be reproduced in the country's leading newspapers.)

other newspapers of the time. John Meadows' book was described as "a truly representative study of modern life." The accounts of the Sylvester press, which firm supposedly were the original publishers of this book, were looked into, and "The Davis Family" was on their records.

It was impossible for me to defend myself against this broadside of "incontestable evidence."

● I cannot describe my emotions. In my heart and soul I *knew* that my novel was original. I could remember selecting the names of my characters from a telephone directory. I can clearly recall incorporating several words into the story that had been taken from a thesaurus. The story was undeniably the work of my creative ability—yet how could it have been published forty-eight years ago—thirteen years before I was born?

No one would believe me. My friends, wife—the whole world was against me. I could bear the disgrace and humiliation I suffered, but I sought some logical explanation to this perplexing problem. I vowed to spend the remainder of my life investigating this puzzle.

I disguised myself and visited the village of Hampton, where John Meadows, supposedly the original author, had lived his life. I succeeded in locating some of his descendants and, by a clever ruse not necessary to relate here, I obtained the diary of Meadows, which was found in an old family trunk.

Unfortunately, most of the entries were made in pencil, and the writing was blurred. But what little I could render legible was sufficient for me. John Meadows had been a school teacher, I discovered. He had taught advanced mathematics at Hampton Academy, and also gave lectures in physics. There were pages and pages of abstruse mathematical calculations in Meadows' diary. There were comments by him on the fourth dimension, hyper-space, and allied subjects. But the passage in his diary which

gave me the clue to the whole riddle was this:

"I sometimes think that time, established forever, isn't a straight line at all. It's a spiral, wound around and around, like a watch spring. Here you are at one point of the spiral. Suppose now you step—by some cosmic slip—to the line in the spiral immediately to your right or left. You have then stepped into the past or future. Into the past or future you suddenly emerge—maybe among people—where you have no business."

There were other notes in the diary which confirmed my guess. Piecing it all together, I deduced that *John Meadows had invented a way to travel in time, into the future!* He had visited the year 1934 and while there had procured a copy of my book. When he returned to his own time, he discovered that my work was a picture of life in his own era. Then something went wrong with Meadow's time-machine. He had injured an expensive part of the mechanism. He needed money, so he copied my novel and sold it to the nearest publisher for whatever he could get. He intended to visit the future again, but he died of heart attack before he could repair the machine. His family must have disposed of the apparatus to a junkman.

You cannot imagine my sensations. I was the most jubilant man alive. When I showed the diary of John Meadows to my publisher and the editor of the *New York Examiner*, I was confident that they would see the light, as I had. And with the publicity my book had received, there was no limit to the copies we would sell. I visualized a dozen editions.

Somewhere back on the trip home I lost the diary. I say it simply, but it was the most tragic moment of my life when I realized that it was gone forever. No one would believe my story now—they would call me a fabricator, or confine me to an insane asylum. You can decide for yourself whether or not I have told you the truth. I am killing myself within the minute. *Has anyone ever lied up to the minute of his death?*



(Illustration by Paul)

The roar of the snakes and the cries of the people was a horrible mixture.

ONE-WAY TUNNEL

By

DAVID H. KELLER, M.D.

● The beginning of the new era dated from the time when mankind left the roads and went into the air. There had been a period of road construction during which millions were spent in building white ribbons of concrete in all directions over the United States.

From the air these roads looked like the web spun by a spider during an attack of insanity. Every important city was connected by the finest kinds of automobiles and the larger cities had threefold roads, one for heavy traffic, one for local passenger use, and one for express purposes. These auto tracks, three in each direction and all six adjacent to each other, were considered the latest word in traffic efficiency. The New York-Chicago road had just been completed when important inventions made the air as safe as the road, in fact even safer, and then mankind left the automobile for the airplane.

During the automobile age, the average tourist was mildly interested in the rural portions of the country, at least such parts as he could see in the cracks between the millions of signboards. Where babbling brooks had once ruled and dogwood blossoms in starlike splendor, filling stations and hot dog stands reigned supreme. The favorite subject of conversation on Monday was boasting of the mileage of the day before and the discovery of a place where the weiners were larger and cheaper than at any formerly known stand. With the cessation of automobile traffic, the pride of mileage was still great but no one cared about eating in the country. Why should they when the Chicago fliers could dine in New York and the New York fliers eat their Sunday dinner in Chi-

● Broad-minded scientists suspect that ages and ages ago upon the Earth dwelt an intelligent civilization at least equal to ours, though entirely different than human beings. Some catastrophe, natural or otherwise, caused the complete destruction of this advanced race, the last traces of which were wiped out during the ice ages.

It is only logical to believe that the human race will not exist upon the Earth forever. There is slight chance that any remnant of human intelligence will survive until the sun dies and the Earth becomes a frozen globe.

Whether man will be destroyed by ants, upheavals of the Earth (which were supposed to have drowned Atlantis), or innumerable other methods is a matter of speculation. He may even destroy himself!

Dr. Keller portrays here a vivid and convincing picture of the future, one that will live long in your memory. Criminology, a new science which is rarely tackled in science-fiction, plays a large part in the present story.

cago? The old idea that the perfect Sunday consisted in going somewhere as fast as possible and then coming back faster still remained a part of normal psychology, but now all the city dwellers went to some other city.

Consequently all the rural eating stands were closed, the signboards rotted down or were chopped up for firewood by the tramps, and on each side of the road the weeds and brambles crept in on civilization, as they will always do when they have the opportunity afforded by neglect.

And when men left the roads for the airplanes, they also gradually left the country. Formerly the pioneer wanted elbow room; now the average citizen was frightened at the thought of living anywhere but in a large city. The large metropolis, east, center, and west, grew larger. Cities like St. Louis, Denver, New Orleans, held

their own in the census reports, but the small cities withered and the little towns died. Gradually the country was deserted. For decades the farmer had been having a harder and more desperate struggle. The Farm Relief bill of 1929 had made many Wall Street men rich but had not in the least helped the little farmer. Invention, science, big business, determined to use waste products as by-products, added the final touch when they made synthetic food and synthetic textiles. Proteins were manufactured; vitamins were made in huge test tubes, and cellulose was duplicated in factories. A very good grade of milk was manufactured. The cow soon joined the buffalo and the dodo.

The farmer sold out for what he could get, exchanged his overalls, for unionalls and came to the city, where he made a better living working eight hours a day for five days a week than he had previously made by working fourteen hours a day for seven days a week. His family enjoyed the talkies where they could see and hear the latest drama of high society, rather than be entertained by seeing the glorious sunsets and hearing the birds usher in the dawn. They forgot the use of the apron but learned the beauty of the human body in a twelve-ounce ensemble. As soon as each family could do so, they bought their own family plane, or while air-hungry but financially crippled, they had at least the satisfaction of renting a plane from one of the numerous "fly your own" companies.

Thus there came a time when all that nine hundred and ninety-nine out of a thousand of the population ever saw of the rural districts was bird's-eye views from some thousand feet up in the air. Here and there a last survivor remained true to his early training and lived in the country. These scattered suburbanites were soon lost sight of by the city dwellers. They were so scattered that their influence, business, and vote was considered not worth the cost of procuring. They were not only ignored—they were forgotten.

And so the country was forgotten; the

little town, the wayside villages were neglected, deserted, and soon fell into a picturesque decay and then complete destruction. Brambles and vines, grasses and small trees tore down the habitations of man and converted them into their original component parts of nature. Little creeping things ruled where man had reigned, and eagle, bear, wolf, and deer returned once again to their own. As the forests grew, the streams enlarged, swamps reappeared, and in a hundred years, large areas were impassable to the unfortunate aviator who chanced to fall into their impenetrable fastness. Fortunately, few airmen fell in these advanced days of perfect aviation knowledge.

Forests again covered the Appalachians and rapidly came down from the mountains and reconquered the wheat and tobacco fields of Lancaster County. In the Great Central Valley the isolation was only broken by Chicago, St. Louis, and New Orleans. The wheat fields of the West were once again homes for rattlesnakes and prairie dogs. In the West, San Francisco and Los Angeles held their own. In the East New York was supreme, with Boston and Philadelphia rapidly losing their population.

The thriving cities, those that were winning in the race for size, were building upward, downward, and outward. Every aid was given the outsiders in their effort to get in and stay in. One-room apartments with secret beds, hidden closets, and absent comforts were supposed to be the latest word in family accommodations. Large blocks of tenement buildings were torn down to make room for landing fields. Every apartment house had its own airdrome on the roof. The vehicular tunnels were abandoned and neglected. Their need had disappeared with the departure of the last automobile. In 2067, an adventuresome author had made a lengthy survey of the underground tubes, following which he wrote a novel in which the hero joined a bandit gang who used these deserted tunnels as a hiding place. His book was supposed to be as thrilling as the description of the sewers of Paris written

some centuries before by Victor Hugo in "Les Miserables." Many learned persons read for the first times this French book so that they could better criticize the American one. Enthused over his description, a club of tube explorers made a yearly tour of some of the more commonly known ones, but this was stopped when several persons became lost and died before they could find their way out.

Escalators provided for street transportation, elevators carried the millions to the airdromes, and once in the air, every man either drove his own plane or went where he wished in one of the large government planes which carried several thousand passengers for long trips.

The railroads disappeared, steamships and harbors became one with the glories of the past. There was interest in nothing but the air and its use as a medium for travel. Even the use of gasoline and electricity had ceased. Atomic energy replaced all other forms of power not only in the field of transportation, but also in the large city manufacturies.

This description of economic conditions is necessary to show the completeness with which mankind had deserted the large spaces between the cities. It is necessary to appreciate this fact to understand why it was that civilization, in such an apparently careless manner, allowed a great danger to assume overwhelming proportions before making any effort to protect itself.

● During these years in which the country was neglected and forgotten, the old life of the wilderness reappeared, but it was in no instance a new life. Bears, mountain lions, deer, wolves, and all the varied forms of wild life simply multiplied at will as always happens when not checked by any powerful enemy like the automatic firearms of the human race. Eagles once again stood on the top of every mountain fastness; ducks and geese by the hundreds of millions once again swam in the inland lakes and waterways, while the prairie chicken roamed over the deserted harvest fields of past centuries.

In every way large areas of land resembled the America that was before the westward rush of the Englishman, before and following the Revolution. Daniel Boone would have felt at home in Kentucky, Crockett have recognized Tennessee and Texas.

The menace to civilization came from the ocean. It was particularly terrible because it existed for so long before it was recognized. It came from the ocean, but by the back door, and thus for a long time its real source was unknown. It was not till the researches of Long, the biologist, that the real and primary home of the menace was determined.

Part of the credit for the actual discovery of this terror should be given to the Tube Exploring Club of New York City. It was on the occasion of their twenty-seventh annual exploring expedition. This club was the only one that was permitted to make exploration of the ancient underground communication channels of the city. The death of several amateurs had closed this form of sport to all except the most experienced tube explorers, and a city ordinance required that even these be roped together to prevent straying from the main party and consequent disaster.

Long, the biologist, Smithers of Chicago, and Peterkin, head of the Universal Air Transportation Company, were among the thirty who made this particular trip. As several of the party were guests, it was decided that nothing spectacular be attempted but that a simple trip through the old tube from Thirty-Second Street over to Harlem, at the abandoned D. L. and W. Station, be attempted. There at a convenient place, the party was to be met by airplanes and the rest of the day devoted to a sight-seeing tour of the city.

The party had hardly gone halfway down to the lower platform when it was realized that a decided change had taken place in the tube since the last exploration. Instead of a few inches of moisture, there was now a sullen, black, long stretch of water some feet deep. It was easy to tell what had happened. The tube under the

river had broken and the water had risen in it to a level corresponding to that of the river.

"I am very sorry that this has happened," said the President of the club. "I am especially sorry because we have these guests, some of whom have come some distance and have never seen one of our tunnels. Has any member a suggestion?"

"I certainly have," at once answered one of the men. "Among my treasures from antiquity is a boat. It is the kind that used to be called a rowboat. Our family has kept it in excellent repair, just as we have treasured our guns though no one in the family has hunted for over a hundred years. I will go and get that boat and bring it down. It will hold about six persons. We will go down the tube as far as we can and see how things are. Of course, that does not provide for the rest of the club, but it will be a fine experience for our guests—first time in a tube and no doubt the first time in a boat."

"A wonderful idea. Please hurry and put it into execution. I will go in the boat with you, Madison, and I think it no more than proper to ask our first club president, James Smith, to join us. That will make three club members and three guests. Gentlemen of the Club, we will have to cancel all of our plans except the ones for the annual banquet. I will ask you all to wait here and help pass the time for our guests till Madison returns with the boat. I feel the keen interest of a boy. I know what a boat is, but like millions of my fellow New Yorkers, I have never been in one. How are you going to get it here, Madison?"

"Easy. I will take some of our members with me. We can carry it from our family museum to the movable sidewalk on Fifth Avenue and have it here in no time. You just tell some of your funny stories and before they stop laughing we will be back."

Some hours later amid the cheers of the club the six men carefully sat down in the boat. Smithers of Chicago and the biologist, Long, being older than the others, were asked to sit in the ends of the boat while the other four of the party

were each given an oar and an elaborate lecture on its use. Smithers, in the front, handled a powerful hand-lamp, operated like all illuminating apparatus, by converted atomic energy. Long, at the back, also, had one of these lamps but it was thought best for him not to use it except on some special occasion. A few of the club promised to stay at the landing and await the return of the boat.

Exactly one hour and fifty-five minutes later, the boat reappeared. The president of the club was paddling with one broken oar and Long, the guest, was doing his best with another one, the handle of which was gone. Both men were breathless and thoroughly exhausted from their unusual exertion. It was some minutes before they could even tell a part of the story in disconnected words. Smithers, Peterkin, James Smith, and Madison were dead. They were unable to tell how they had escaped. The city officials must be told to barricade the openings of the tube at once.

That night the club held their banquet as arranged for by the program committee. But as guests, they had the Mayor of New York and the Commissioner of Public Safety. The club president, his nerves shattered by the unusual and harrowing experiences of the day, simply introduced Mr. Long, who was unusually suited, as a biologist of long standing, to describe what had happened.

"We had gone some miles in the boat, at least it seemed that far," began Mr. Long, "when Mr. Smithers at the front of the boat gave a cry of astonishment. I feel that there was some fear in that cry and I am not attacking the bravery of a dead man when I say that, because I know that we were all afraid. You will recall that we had no weapons save the oars and we started to use them the best we could. Some of the men fought, and as I recall it, Mr. Young, the club president, and I tried to reverse the direction of the boat. We finally started backwards amid scenes of the greatest confusion. I fortunately had a light and by means of this we made our way. We did not dare to look back,

but now and then a dying scream told us that another of our group had been taken from the boat. When we finally reached our starting point, all were gone save Mr. Young and myself."

The startled guests looked at each other as Mr. Long came to a pause. But the Mayor of New York City broke the silence.

"What did you find in the tunnel, Mr. Long? Or what do you think you found?"

"I can hardly answer that," replied the biologist. "It was some kind of animal with a mouth at least fifteen feet wide when fully opened. We only saw it from the front, so I can give no idea as to how long it was or whether it had feet. All we saw and all we fought was the head and mouth. I feel sure that it swallowed our four companions. Why it permitted us to escape is hard for me to imagine. Certainly it did not stop because of fear."

"Only one of them?" asked the Mayor.

"Only one that we saw."

"Nothing to be afraid of, then," said the head of the city. "We will close all the exits of that tube, cement our barricades, and let the thing starve to death or go back to the ocean."

The Winged Snakes

● Just then a batch of radiograms were handed to the Mayor. Excusing himself, he read them slowly, one at a time. Then he reread them. Finally he put them in his pocket and faced the club members.

"Gentlemen," he said gravely, "the death of these four men in the tube was but one of the great threats that has faced our nation today. The radiograms I have received are from many of the great cities of the nation. Apparently, there has been a tremendous influx of peculiar animals, not only on the coastal cities, but inland. Every city is on the defensive. It is believed that already the population of New Orleans, Memphis, San Francisco, Pittsburgh, and Denver are wiped out. St. Louis reports the death of many thousands of her citizens. In Chicago the people are fleeing from the lakefront. I feel that we are fortunate in

having only one of these animals threatening us. It seems that in the other cities these killers have appeared by the thousand. They could not all come from the ocean. That does not explain Denver and Pittsburgh. I feel that the only thing to do is to appoint an investigating board and when that group of men make their report, we will be better able to know how to handle this menace. Mr. Long, will you head this board? I will give you as members some of the most brilliant minds in the city. Can you give me, in a few words, your plan for conducting such an investigation?"

"This would be an honor that I do not want and certainly do not deserve," replied the biologist. "I personally feel that we are threatened by an unknown form of life, but simply because it is unknown, I do not feel that it is necessarily new. I am willing to admit that the simultaneous appearance of a killer in inland cities like Denver and coast cities like San Francisco appears as though there were more than one form of this menace, but you must remember for a fact that many years have passed since we have had any intelligent idea of what was happening in our rural districts. Over twenty-five years ago a few adventuresome souls and I started to walk from New York to Philadelphia and we had hardly gone ten miles before we were forced to retreat, fighting every inch of the way before a number of wolves. I feel that these killers came from the ocean primarily, and the reason I feel this way is that the animal I saw this morning is like nothing I have ever seen on land. At the same time, I do not feel that it is a new form of life, developed by nature in the last few hundred years. It has probably been co-existent with humanity for many centuries but for some reason has never ventured within the domains of the human race before. The only place where it could have hid itself is in the ocean. During the last hundred years, our harbors have been deserted and our ships no longer roam over the seas. These animals have become bold. They have gone up the great rivers; they have landed on our

deserted coasts. Perhaps they have been living in our forests and swamps for over a hundred years without our realizing it. How could we know about it? When we soar over a forest, a thousand feet, five thousand feet above it, what can we know about the life existing in that forest or the animals that are hid in that swamp? On land these large animals had no opposition. I say large because the one we saw this morning had a mouth spread from jaw to jaw of over fifteen feet—so the rest of it must have been large—and there is no way of telling whether this was a young one or fully grown. In our deserted rural districts, these killers had no opposition. Food must have been abundant. We know there are large herds of wild cattle. They multiplied without human or animal hindrance and finally the time came when, restless and urged on, perhaps by some common psychic force, they decided to see what the rest of the country was like and the only part of the country they did not rule was the part covered by the cities.

"I think that nothing can be done about it till we know more about them. These killers present a thousand questions and we cannot fight them successfully till we know more about them and their habits. To do that we will have to go where they are. The attack on the cities must have been sudden, otherwise the people could have escaped into the air. It must have been made in large numbers, hundreds of thousands in each city, for otherwise many from each city could have escaped while a few of the killers were working. Panic must have been a vital part of the failure of these people to defend themselves. It is peculiar that entire cities were wiped out when the people, or at least some of them, could have gone into the air. Mr. Mayor, is there no information on this point in your radiograms? Surely these killers did not go into the air after their victims."

"The messages are very confusing," replied the Mayor. "They were no doubt sent in great haste as warnings. There is not a word in any of them about the use

of planes as a means of escape. This one from Denver is typical of all of them. Suppose I read it to you, gentlemen!

"TO THE MAYOR OF NEW YORK: CITIZENS OF DENVER BEING DESTROYED BY THOUSANDS OF KILLING REPTILES. ESCAPE IMPOSSIBLE IN ANY WAY, REQUEST ALL NATIONAL HELP, PREPARE TO DEFEND ALL CITIES FROM SIMILAR ATTACKS. SIGNED: MAYOR OF DENVER.

● "Evidently," the Mayor of New York concluded, "escape by plane was impossible. Therefore these killers are able to fly. I think, Mr. Long, that you should consider this in making your investigations. If you go by air, you run the same danger that has already overtaken millions of our countrymen. Does it not seem to be best to wait here and prepare in every way for the defence of the city?"

"I have never waited for anything in life except death," the biologist replied, "and even that I have prepared for. I think that the best thing to do would be to go to some smaller city that is being attacked and be an eyewitness of the entire situation. Up to the present time, we are completely in ignorance of what we have to fight. If we do not know what we have to deal with, how can we go ahead with our plans? You let me have one of the swiftest planes you have in the city and one or two of your best pilots. Then we are going out West, perhaps a long ways out West and perhaps only a few miles. As soon as we gain the desired information, we will return and start to defend the city."

"The fastest plane here is a two-man racer, but it is certainly speedy," the Mayor assured Long. "I think that it is as fast as any plane on earth. The pilot who won the last international race with it is still in the city. He is a fearless man and I think will consider it an honor to go with you. Suppose we make arrangements for you to start early in the morning and then perhaps you will be able to meet with the officials of the city tomorrow night. How would that suit you?"

"Fine. In the meantime, I would advise that you prepare the citizens of New York with every possible form of fight-

ing weapons, and tell them that they may have to fight for their lives. You get that aviator and his machine ready and arrange for a start at daybreak tomorrow. May I suggest that you form a board of experts in every scientific field and have them meet with the city officials tomorrow evening. I will be back by that time or I will be dead."

At midnight, Long joined Jerry Johnkins, perhaps the finest ace among world fliers. A hasty plan was made and then the biologist went to bed for a few hours of much needed sleep. At four, he was awakened and a few minutes later the fastest plane in the world was speeding westward.

Conversation was perfectly possible in the glass-enclosed cabin, and once started, the biologist had many questions to ask. How fast could they go?—how slow—how high, and how low? Was it dangerous to go too near the ground? Could they land on a field and then start without leaving the plane? Finally Jerry Johnkins had to say what was on his mind.

"You don't know much about flying, do you, Mr. Long?"

"Not much. I have a plane that is about fifty years behind the times, and I never use it till the absolute necessity arises. Great Scots! I bet you would laugh to hear the way my children jeer at me for being so old-fashioned, but do you know, I would rather walk than anything else. However, I really had to know about this plane and what you and it could do. Do you think you could go faster than a bird?"

"There is no bird I cannot pass."

"Faster than a snake with wings?"

"There's no such animal, but if there was, I could beat him with one engine stopped."

By this time, they were far past the old and deserted city of Harrisburg. They had crossed the mountains over which Forbes and Washington had cut a road for the conquest of Fort Pitt in the French and Indian War. They were nearing the beginning of the Ohio River where the city of Pittsburgh had made such a

desperate struggle for over a hundred years to keep alive. At Long's request, they were flying slowly about three hundred feet from the ground.

Suddenly Johnkins exclaimed, "My body and soul, Mr. Long! Look at that thing running after the man."

"We were flying about three hundred feet from the ground and very slowly," said Mr. Long that evening to a gathering of over fifty of the most learned scientists of New York City, in company with a few of the city officials. "We were flying very slowly because I felt that we would see something interesting soon, and then suddenly Mr. Johnkins, the pilot, exclaimed, 'My soul and body!'—No. He said, 'My body and soul, Mr. Long! Look at that thing running after the man.'"

"It was a fine place to observe. The man was running down one of the old country roads, and behind him was running one of the killers. The man and the killer were going in the same direction as the plane, so we saw the whole performance. In less than a hundred yards, the thing caught the man and simply swallowed him. That is all. He didn't bite or chew him. He just opened his mouth and swallowed him. Then he looked up at the plane and I said to Mr. Johnkins, 'Better go up, and fast, too.' The killer came after us and we knew then that this one, at least, could fly. We went up and up and lost it at thirteen thousand feet. I decided then that we ought to go on to Pittsburgh but that we would have to go rather carefully.

"We saw Pittsburgh. There were probably a thousand of the killers there and I think that the only reason we were able to escape was the fact that the killers were not hungry. We did not see a living being, although there were a few planes hurrying eastward. Then we decided to go on to Cleveland. That was just like Pittsburgh, only worse. The loss in human life must have been terrible. There were thousands of the killers there and they were still eating the poor people. We were only saved by our great speed. The average plane has no trouble at all to keep ahead

for a few miles but from our altitude we saw plane after plane destroyed in the air by the flying killers. Several times we were chased, but Johnkins was too clever for them. They can fly but they seem to be more at home on the ground. On our way back to New York, we crossed Lake Erie and there are literally millions crawling out of the water along the lake shore."

● During the description so far, the

Mayor of New York had held a glass of ginger ale in his hand. Now he raised it to his lips, but much of it was spilled on the cloth. Trying to control himself he asked, "What are these killers, Mr. Long?"

"Perhaps it would be easiest to call it a snake, some kind of water snake, though personally I prefer to use the word dragon. However, suppose we use the word snake. They are very large. Large snakes have been described before, but we thought the men who wrote those tales were liars. Pliny says that a snake one hundred and twenty feet long was destroyed by the Roman Army in the River Begrada during the Punic War. Malory tells of a snake so large that it drank a well dry. In June, 1673, Joliet and Marquette saw two dragon forms painted on a bluff overlooking the Mississippi River at what is now Alton, Illinois. They gave a very complete description of these paintings. The army of Alexander saw a dragon in India that had a head as large as a shield. Charles Gould believed that these dragons existed in China, and in his account of them he gave them the ability to fly and devour men alive. Olaus Magnus saw a sea-snake and said it was two hundred feet long and twenty feet in circumference. Hans Egede, a missionary to Greenland, saw a similar monster that was very large. Pontoppidin claims that one he saw was at least six hundred feet long and as large around as two hogsheads.

"Is all this tiresome to you, gentlemen? They are just a few of the facts that I hurriedly collected in the Public Library this evening before I joined you. My memorandum shows that large sea snakes

were seen in 1819, 1822, 1837, and in 1875 the sailors on the bark *Paulin* saw one swallowing a small whale. The Norsemen believed that these snakes spawned on the floor of the North Sea.

"I feel that after the experiences of the past forty-eight hours, we will have to apologize to these scientists of past ages. They really saw these large reptiles, even as I saw them today. Civilization has abandoned the world to live in cities. Perhaps conditions during the last few hundred years were especially favorable for their production in large numbers. At least, they were not only undisturbed by man, but they lost their fear of him. Then they became restless and began to migrate in millions. Perhaps they were hungry and had exhausted their normal food supply. Now as to what they are.

"Those we saw were all very much alike except in size. They varied from fifty to three hundred feet in length, scaled, like a snake, but with wings, a definite body, and a tail. Under the body there were a number of pairs of legs. The neck was long and the head enormous. Several we saw plainly had distinct lumps in their necks. I judge these were human bodies they had swallowed like a snake swallows a toad. So we have a reptile that can walk or run on the ground, that can swim in the water and fly in the air. Johnkins thought that they could make two hundred miles an hour in the air, but he was sure that high altitude was too much for them. He also said that they seemed to be clumsy in turning. I feel that we will have to give full credit to the reports that have come to New York over the radio. No doubt at all that over twenty-five million people have been killed since the invasion of these killers started, and where it will stop is hard to say."

The men of New York looked at each other. At last the Commissioner of Public Safety spoke.

"But surely a reptile of fifty feet, or even three hundred feet can be killed," he said.

"Certainly," was the calm reply. "I can imagine a dozen ways in which they could

be killed, one at a time. For example, a large explosive bullet planted in their brain would tear their heads to pieces, but it would have to be a large bullet, several pounds in weight, fired from a gun. The artillery man would have to be a clever shot. They could be poisoned by food or poison gases could be dropped on them. But you must remember that there are literally millions of them. Killing them one at a time would do no good whatsoever. Perhaps an army of infantry men with machine guns could stop their advance, though I am not sure but that their hides would stop the average bullet. Armored tanks carrying one-pound guns might help, but lots of the snakes we saw today could almost swallow a tank. I feel that something new will have to be discovered, some novel means of warfare now unthought of, otherwise it is only a question of time before the United States will be a deserted land."

The Mayor turned to the dean of the newspaper reporters. "What is the latest news, Mr. Hereford?"

"Just plain, unadulterated hell everywhere," was the startling reply. "They are having a time of it over in Europe. London has been attacked. Ireland is a deserted and desolate island. Every city of North America is being attacked except three, Boston, New York, and Philadelphia. We had one of the killers in the tube, but it must have been a small one. The other two cities are absolutely free of the menace."

"Then," said the mayor, "it is for us to invent some means to save these three cities. Mankind cannot live in the air at high altitudes. They can escape from these flying snakes by going up, but the time would always have to come when they would have to return to earth. They cannot live under water. The only place where man can live continually is on the earth and for three hundred years we have been city dwellers. I fear that we must take the defensive rather than the offensive. Perhaps we will have a little breathing spell to prepare. Those killers, millions of them, may have had their

hunger satisfied. They may return to the ocean till they become hungry again. In the meantime we must prepare for a second invasion and when that attack comes, we must be in such a position that we cannot be harmed. That is our problem. I will ask you scientists to solve it. Please secure contact with the wisest men in Boston and Philadelphia and see what can be done for the future safety of the three cities. Mr. Long, we cannot pay you and your fearless aviator for the work you have done, but we do want you to continue to advise us and I want you to know that you have won the thanks of a great city."

For the next week, isolated aviators arrived in one of the three surviving cities of the United States. All told the same tale of a terrible and almost complete destruction of life by large numbers of gigantic reptiles. In a few places, the United States Army and the State Militia had endeavored to protect the cities, but this only delayed the destruction and in no instance was the resistance of any good. In fact, it only seemed to infuriate the snakes. The general opinion was that human life was no longer existent north of the Panama Canal save in the three cities that were so peculiarly spared. One man said that the land was picked dry as a bone. Others described with varying degrees of accuracy the destruction of their communities and families.

Cities of Glass

● The three cities waited a day, a week, two weeks and then sent out scouting parties. Not one of the killers could be seen. They had either withdrawn to the cover of swamp and forest or to their deep-sea homes. For the time being, the menace had become simply a foreboding sense of final disaster at the time of the second attack.

The civilization of the world was not destroyed as much as it was decimated. Reports from other continents seemed to indicate that the loss of life there was far more terrible than in the United States. There was practically no one left in all the world save in the three cities of

the United States. These were unharmed, but London, Paris, Constantinople, even the four hundred million people in China were simply nonexistent. Scientists of a mathematical trend tried to calculate the number of killers necessary to eat these hundreds of millions of people in the short space of a few days, but all such calculations were guesswork. All that could be definitely said was that mankind, having reached a certain degree of intellectual development, disappeared—not completely, however, for there were probably twenty-five million men, women, and children in the three saved cities of the United States, that had once boasted of a population of nearly two hundred million.

The city of Washington being desolated, it was thought best to form a new republic to be called the United Cities. This was to be for mutual defense against a future menacing gesture from the killers. There was, at first, little need for law, and the prostrating neurasthenia was so complete that for some months, the only manufacturing was of the necessities. There was no commerce. The large freight planes rested idly in their airdromes. Even amusements dwindled for lack of support. Financial standards were twisted and warped. When millions of people die in a day and the living millions face the same danger, people think of other things than to be entertained. Religious reformers stood on every street corner preaching and warning the people to repent of their sins. The advocates of birth control now had a logical reason for their doctrine. Why give birth to dear children who would only serve as dragons' food?

The first year of the new order of life passed without a single sensible plan being brought forward for the future protection of the three cities. When the final plan was first proposed, it was so peculiar and fantastic that at first the inventor was met with silent ridicule. Later he was hailed as the savior of humanity, man's greatest friend, but for weeks and even months he was looked upon as almost insane. However, Adam Geibel did not mind that. He was so busy, so completely en-

thused and preoccupied with his dream of making the city of his birth safe for all time that he was not even aware of the scorn which most of his fellow men were casting on him.

He went to the specially created Department of Inventions and was unable to secure an interview with any of the departmental chiefs. He tried for two weeks to secure an interview with an intelligent member of the Mayor's Cabinet. At last, in despair, he recalled the fact that a Mr. Long, a biologist, had taken an important part in the affairs of the three cities in the first days of the menace. Perhaps he would give some consideration to a worthwhile plan to save the city?

Mr. Long was such a great man that he was not hard to see. In fact, he was so great that he did not even realize it. Adam Geibel felt at home in his company within a very few minutes, and at the end of fifteen minutes was talking freely about all of his plans for the protection of the Three Cities. The biologist was at first polite then interested, and at last enthusiastic. He expressed his indignation at the delay caused by the stupidity and lack of interest of the department heads.

"I tell you what we will do, Mr. Geibel," he finally said. "You and I will go to see the Mayor of New York this afternoon and we will ask him to go with us at once to see the President of the United Cities. I think your plan is the first worth-while idea that has been proposed for the safety of the world in case these killers ever come again. You let me do the talking."

In a half-hour, they were in the Mayor's office. Another hour saw four men, the President of the United Cities, the Mayor of New York, the celebrated biologist, and the unknown inventor, in conference. Mr. Long apologized for the urgency of his demands for an interview.

"I know about these killers," he said. "I have actually seen men eaten alive. I saw them by the millions crawling out of the waters of Lake Erie. I believe they will come again. Ever since those terrible days, I have preached preparedness. Now we

finally have a worth-while plan and I want that plan given careful consideration. It seems to me to be entirely practical."

"How much will it cost?" asked President Morrow.

"That is not the question," declared Long indignantly, unabashed by the thought that he was talking to the President of nearly the entire human race. "The question of cost cannot be taken into consideration in any way. No matter what it will cost, it will be necessary to save the human race. What will money be worth to you or me when we are being propelled down the throats of three-hundred-foot snakes, to be finally killed in their gastric juices? What is money anyway? What can it buy if it cannot secure and insure the perpetuation of the human race? Already the existence of the *genus homo* is threatened by race suicide. Do you realize that the continued threat of extermination has lowered the birthrate till now it is only ten per cent of the death rate? I feel that the Three Cities should devote their entire strength, wealth, and man-power to making these cities safe. Adam Geibel has a solution that really solves the problem. That is my answer to your question of the cost."

"I apologize," said the President. "You are more than right. What is your plan, Mr. Geibel?"

"In its simplest explanation, it can be given in a few words. I would have a commission determine the size needed for each future city and then I would cover each one with glass. In other words, the Three Cities would have glass roofs. This glass would be so thick that not even a three-hundred-foot monster could crush it. It would be so strong that the total weight of millions of these reptiles could not break it. We would make it of quartz glass so that no life-giving rays of the sun would be excluded. The city would be a great observatory. Practically no artificial heat would be necessary. Fresh air would be pumped into the city through airtubes too small and too finely guarded to permit

a snake of that size to enter them. In summer time, refrigerative machines can lower the temperature. At the top of the glass dome, special openings can be made to permit the passage of airplanes, but these openings can in a few moments be tightly closed. I even believe that glass tubes of the required strength can be built between the three cities so that if the air ever becomes dangerous, communication can be maintained between us and our allies. That is my plan. The building of this roof of glass is a problem for the engineers. I am not capable of doing anything except suggest the plan as a whole; the details would have to be cared for by a special construction board."

At this point, Mr. Long spoke.

"I want to say something before either of you two gentlemen make any comments. I believe that the idea is entirely practical. In fact, I feel that it is the only rational plan that has been presented so far. The menace of these killers may become a real one next year or a hundred years from now, but when it does come, it will have to be faced successfully or the human race will be exterminated. The plan suggested by Mr. Geibel has the beauty of permanency. Put these glass roofs over the three cities and they will still be there a thousand years from now. I would strongly advise that you take this plan and put it into execution as soon as possible."

The President of the United Cities and the Mayor of New York looked at each other thoughtfully. At last the President spoke.

"We will do it. I will have a bill passed at once making available every resource and every man-power of the nation. I know that I can count on help from every source just as soon as it becomes known that you, Mr. Long, recommend the plan."

"That is kind of you to put it that way, President Morrow," the biologist said, "but due credit must be given Mr. Geibel."

"We will give him all the credit we can," the executive agreed. "He will head our construction board."

● Before work could be started, it was necessary to estimate the future size of each of the three cities and build a roof covering only enough of the old cities to comfortably provide for this population. In the centers of all the cities, there were sufficient tall buildings to provide for supports though many buildings had to be both lowered and raised. Finally, everything was in readiness to start building the frames. A circular foundation of cement was laid and on this, the glass walls slowly rose. Machinery was invented to pour the molten glass into the frames like so much concrete and allow it to harden in its final resting place. The population of the cities now worked as they had never worked before because there was lots of work to be done that could not be performed by machinery. The labor law passed placed every male between the ages of eighteen and sixty at work of some kind. The younger and older males were given four-hour days. Even the women were put to work in the offices and as suppliers of food in the commissary department.

Finally, after several years of labor, unceasing and exhausting, the glass domes were completed. The cities were connected with tunnels equipped with twelve-foot glass walls. At the top of each dome was an outlet for airplanes so constructed that it could be hermetically sealed at a few minutes' notice. Ventilation was provided by a single opening defended with terrible steel barbs pointing outward which were considered a perfect protection against any invader. Besides, the opening was too small to admit the body of a three-hundred-foot animal. Through this opening, the air was drawn in by turbines operated by the same atomic energy that had been so successfully used in all power machinery. A final tour of inspection headed by the officials of the United Cities and the Board of Construction was made and the work pronounced perfect.

The four years of effort had done serious damage to the population. Many of the adults had died and the birth rate con-

tinued to fall. When the cities of glass were finally completed, there were a scant million people in New York, a third of a million in Boston and about a half million in Philadelphia. The three cities had been domed to provide for a total future population of twenty-four million.

The work having been completed, there was a terrific let-down in the interest of the human race. During those four years they had kept feverishly at work driven on by the thought that at any moment the attack might come from the killers and find them unprepared. Now that they were safe life seemed more dull and less endurable. There was room for all to live, and everyone could secure the government ration and yearly clothes for a minimum of labor. The nightly entertainments were provided free of cost by the government. If life in one city became dull, it was easy to go to one of the other two, but life there was just as dull and uniformly standardized. It was the boast of the United Cities that at last a stage of civilization had been reached where every citizen had all the necessities of life and many of the luxuries. There were still rich people, but there were no poor ones. Pauperism was an impossibility. A family could not exist in poverty even if they wished to.

There was no incentive to toil. In fact, there was little necessity to do so. An hour's work a day supervising the work of complicated machinery enabled the worker to provide himself and family with everything they desired. Muscles became small and flabby. Minds became inert and dull. Life was safe but uninteresting. Everywhere there was security, nowhere danger.

On this soil arose a danger that was more horrible in its threat to civilization than the reptile killers had ever been. For the snakes at the worst simply destroyed life but these human reptiles demoralized without destroying. The three cities produced a generation of perverts, men and women who grew to maturity so eager for thrills that the breaking of the Ten Commandments ceased to interest and efforts were made to invent new com-

mandments for no other purpose than at once breaking them. The growth of this part of the population was rapid. Within two years after the completion of the glass cities there were so many instances of law violation of the most serious kinds that the thoughtful members of society became alarmed. In the emergency, President Morrow called on Mr. Long for advice.

"But I am not a criminologist," insisted the biologist.

"But you know more about all forms of life than anyone else, and we want your help."

"I have only one suggestion to make and that is so gigantic in its scope that I fear you will not accept it."

"Go ahead. Speak everything that is on your mind."

The biologist sighed.

"It seems to me that I am rather tangled up with this matter since that unfortunate day when four men were killed in the Hudson Tube. What a change has taken place in the world since then! And what changes will take place in the next ten years? Well, as you were talking to me about this sudden flare in crime records, the thought occurred to me that there were two classes of people living in the United Cities—just as there always have been two kinds of people. There are good people and bad people. Perhaps the bad people are bad because they are sick, but really that makes but little difference. The killers did their deadly work because they were hungry, but none the less, they killed. These criminals may be constitutional perverts, but nevertheless they are a very definite danger to what is left of humanity. I think that unless something is done, they will make us a race of savages. So here is my plan.

"Make a list of every law violator known. Then slowly bring all the people in Boston over to New York and Philadelphia. Leave the city of Boston, the machinery, the houses, everything just as it is now. In the tunnel between New York and Boston construct a number of revolving doors so constructed that persons can

go through them to Boston but can never return to New York. Mobilize your entire legal machinery and on a certain date arrest every pervert, law violator, and menace to the community and force them to enter the tube. Tell them that in Boston there is food, liberty, and license. They will have to manufacture their own food, their own clothes, and they can make what government and laws they wish to. If they do not want to live in a glass city, they can return to the wilderness. Then in the future, when anyone breaks a law of any kind, simply send him or her to Boston. In New York and Philadelphia the good people will live, and in Boston the bad ones. It is an ideal arrangement, and there is not the element of cruelty in it that the former method of life imprisonment had.

"There is another factor that is of value in my plan. Like breeds like. By this method we will free the better part of humanity of the danger of continually breeding criminals. No doubt the Bostonians will degenerate but the remaining part of humanity will become more worth while. How about such a plan? Is it impracticable?"

"It sounds all right to me," replied President Morrow. "In fact, I was thinking of something like that myself, only I considered simply sending these criminals into the wilderness. Your plan is far more humane. I like it and I am going to put it into execution at once as soon as I can confer with my Cabinet. It will have to be done secretly, otherwise it will be a difficult task. We will begin by building the revolving doors; then we will take all but the criminals out of Boston by plane, and on a certain date send as many criminals as we can gather together and force them to enter the one-way tunnel."

The plan was placed into force within a month. So silently was it put into action, so secretly had the plans been kept, that before any united defense could be made by the criminal perverts, over two hundred thousand of them were segregated in Boston. At once the crime incident lessened in New York and Philadelphia and

while, during the next year, over five thousand more law offenders were segregated, still the beginning of the new year showed a population in the two glass cities that was almost one hundred per cent good citizens and this, not because of any terror of the law, but because of innate desire to keep the Golden Rule.

In that year of segregation life had not been pleasant for the criminals. It was one thing to prey on defenseless citizens and it was another to injure hardened criminals. The murder rate rose; life became the cheapest commodity in Boston. A succession of super-criminals rose to power as temporary kings, only to meet death by the assassin's blade or poison given the same evening as a favorite's kiss. There was no law in Boston save that of might. Work was only done as a necessity. Within the year all of the feeble-minded and epileptics had become virtual slaves, treated, housed, and fed as though they were so many animals, forced by their labor to support the colonists who were mentally superior adults.

The death rate was high. Murder, neglect of hygiene, insufficient food, all contributed to a rapid reduction of the population. There were practically no children born and those that were born alive were frequently killed by their criminal parents. There was no security of life or property.

And ever in the minds of all the Boston criminals was a deep resentment that they had been handled in such a manner by the rest of humanity. The psychopath always feels that he is being badly treated, and more than ever, these isolated defectives felt that they had been dealt with unjustly. They spent their spare time planning revenge, the ones of lower intelligence dreaming of rape and murder and the super-mentalities planning revenge of a horrible and subtle nature, hitherto undreamed of in the criminal sadistic records of the human race.

The Criminal City

- Three years after the successful isolation of these degenerates, two men were in control of the city of Boston.

Thaddeus Garland, known among his gang as the Beautiful Spider, and Hannible Cocke, whose favorite nickname was the Brainless Wonder. These men had risen to unchallenged control of the prison city sheerly through their intellectual supremacy and their cold brutality. They lived for three reasons: the ultimate destruction of New York and Philadelphia, the final overthrow of each other so that one could reign supreme, and the accomplishment of self-pleasure in every way that had for thirty thousand years been a matter of repugnance and detestation to the better nature of mankind. On the surface they were friends, held together by ties of affection and mutual interest; below the surface they hated each other. They had ruled Boston for three months, thereby establishing a record.

"We will never be satisfied," said Garland one summer's afternoon to his royal partner, Cocke, "until we settle once and for all the real ownership of this city. You know as well as I do that this idea of having two rulers is all buncombe and bosh. Hell! There is only room enough here for one head and if the fool women keep on killing the occasional baby that happens now and then to be born, there will not be anything to be head of soon, anyway. I think we ought to settle the matter. Throw the dice or cut cards or go up in the air and shoot at each other till one drops to the ground dead. We would do it, too, if we could only be satisfied with the death of those other cities first. It is a funny thing, this hate business. Here we are dreaming of killing each other but we hate those people in the other two glass cities so much more than we hate each other that we just go on living and working together as though we were business partners, simply because we have not sufficient intellect to figure out how to kill them. Men call you the Brainless Wonder because you look as though you had no brains in that pinhead of yours and yet I know that you are capable. They call me the Beautiful Spider because I have the head of a Greek God fastened on to a body of such monstrous deformities that

a spider would blush to have a body like it. And yet, in spite of the shapes our parents gave us, we are kings of Boston for a day. Different from the old days in this town. Why, I read that they used to take first class books and refuse to let the Bostonians buy them. Think of that! And now we hire authors to pander to the depravities of our citizens. Ha, ha! That sounds like the battle-cry of a jackass."

The Brainless Wonder rubbed his receding forehead and then twisted his beaked nose with a gentle, loving gesture. Looking at Garland he whined, "Ah! Let's do something. How would it be to drop a lot of explosives down their airplane opening?"

"Yes, and a fat chance you would have of getting near there in a plane. Don't you know that every plane that goes out has a wireless code word and when they want to return to the city the pilots have to send down that word before the air gates are opened? You could drop all the explosives in the world on that glass dome and it would still be a glass dome."

"Do you know how they open and shut the air gates?"

"Certainly. Just like we do ours. Simple mechanism. Just a couple of buttons. Press the blue one and open goes the gate. Press the red one and it closes."

"That is the way it used to be. You don't know that it is that way now, do you?"

"Sure. Did I ever tell you about Lizzie, the Golden Girl?"

"I know about the dame, but she is dead now."

"No, she ain't. She lives in Philadelphia. I hear from her every now and then."

"Not in Philadelphia?"

"Yes, I placed her there. She is a sure enough good girl now. I wanted to know the weakness of the other cities and so I thought we might use some of the cats for spies, and Lizzie, she was sore at being sent here and she rather jumped at the chance of going back. She is in Philadelphia and what's more, she is married

to one of the men that keeps the air gate watch."

The Brainless Wonder looked more cross-eyed than ever.

"That is just one more reason for killing you, and I am going to do it some day. You knew that the Golden Girl was my girl, and you told me she was dead. Sure she run away from me when I tried to make her live with me, but that was no reason for you meddling with the matter. Hell! I am going to Philadelphia and get her, and when I place my last kiss on her dead face, I am going to come back for you, and your face will be less beautiful and kissable when I am done with you."

The Beautiful Spider sighed.

"This sort of thing is just the one reason why we are still living here without doing a thing to those curs in the other glass cities. If we could only work together, we could do something. Ain't there enough dames here to suit you? Mollie Black told me the other day that every time she thought of living with you she quivered. There is a nice girl, and you would appreciate each other. Course she has killed five, but she might spare you."

"Well, I am going. You can take a chance with Mollie."

"If you go now, you won't ever come back."

"Oh! You need not worry about that."

And at that, the Brainless Wonder walked out of the room. Fifteen minutes later he was in his airplane going through the air gate of Boston. In less than an hour he was flying over the glass city of Philadelphia. He found the air gate of that city tightly closed and he saw something else that gave him room for plenty of deep thinking.

● On the glass dome, sprawled out in careless attitudes, thoroughly enjoying themselves in the reflected sunshine, lay thousands of the winged snakes. The Brainless Wonder had never actually seen any of them at the time of the last threat, but he, like all the rest of the citizens of the Three Cities, had been well instructed

in the details of the killers. When he saw these snakes with wings, feet, tails, enormous heads, stretching and yawning and scratching themselves in the sun, he knew that they could be nothing else. They had found their food but between it and them was a twelve-foot glass dome. So they just made themselves comfortable and waited there. They were used to waiting.

As the criminal watched them, a brilliant thought came to him. Perhaps, by a piece of strategic flying, he might be able to destroy the city and at the same time satisfy his desire for revenge on the Golden Girl. It involved a feat of remarkable flying, but the ability to handle a plane was one of the accomplishments of the Brainless Wonder. He spiraled twelve thousand feet into the ether and then hovered over the air gate of the city. From that vantage point he radioed to the watchers of the gate.

"Am going to drop into the city. Unless you open the gate for me I will be killed by these killers. You can open the gate and close it in lots of time. Watch out for me. I am dropping in three minutes."

Twelve thousand feet below the watchers were in a quandary. Who was this man in the plane above the gate? Should they let him fall to be a helpless prey of the devourers, or should they save him? Hastily they telephoned to the Mayor of the city. He could not be reached. The Head of Councils could not be found. Minutes were passing. There was no one to assume the responsibility. From far above, the message came.

"I am dropping in fifteen seconds."

The watchman of the air gate muttered, "It would not be right to let a human being die if he can be saved," and he pressed the blue button. The gate opened.

The Brainless Wonder let his plane drop. A special landing attachment made dropping perpendicularly a perfectly safe performance. He dropped rapidly at first, but when within a thousand feet of the gate, he lessened his speed and started his siren whistle. At once, hundreds of the indolent snakes aroused, alarmed at

the new noise. As the plane rushed down toward the air gate, they rushed by the thousands towards the plane.

The Brainless Wonder arrived safely on the landing platform. The closing gates crushed the head of the first snake who had arrived at the opening. The criminal jumped out of his plane and ran toward the office of the watcher of the gate. That official ran forward to welcome and congratulate him on his escape. The man from Boston killed him with a dagger and ran into the office. He again pressed the blue button, and the heavy gates opened. Instantly a living stream of hideous reptiles poured through the opening. They came by tens, by hundreds, and later by tens of thousands. Their cries of hungry rage called their comrades to the feast. Escape for the people of Philadelphia was impossible. There was only the one air opening. There was a tunnel to New York, but in a few minutes that was hopelessly blocked by the suffocating bodies of those who had rushed there in their helpless and hopeless panic.

Finally all of the killers were inside the city. They were all roaming through the streets, reaching into the rooms and climbing up the houses after their victims. Through the opened air gate, the summer sun streamed. Far above, a lark sang. From the opened mouth of the air gate rose the combined clamor of hopelessness and hell. Suddenly a single plane shot up through the sky.

A half hour later, a single plane landed in New York. A woman stepped out of the glass cabin and staggered towards the office of the watcher of the gate.

"I want to see the Mayor at once," she whispered, "and you better tell him it is important."

And then she collapsed. When she roused from her unconsciousness, a trained nurse was taking care of her under the directions of a physician. She was in a hospital and the Mayor was waiting for her message.

"My name is Catherine Gower," she began, "but in Boston they called me Liz-

zie, the Golden Girl. No use telling you why I was sent to Boston; you wouldn't believe me anyway, if I told you I didn't do it. Boston was a mess when I got there. Two men, perhaps you know of them, the Beautiful Spider and the Brainless Wonder, think they are kings there. This one man, the Brainless Wonder, wanted me for one of his women and I guess that my stomach was too delicate, for I just could not even bear to look at him, so I went to the Spider and he said that he would help me if I would go to Philadelphia and be one of his spies. Well, anything to get out of that hell-city and away from the Brainless Wonder, so I went and the first thing I knew, I was in love with one of the watchers of the gate.

"He was a good man, and we were going to be married soon. I decided to double-cross that Boston gang and go straight. This morning I was sewing in his office; it was his eight hours on duty. Things were dangerous; I guess you know that for a week the glass dome of Philadelphia has been covered with the killing snakes. We received a radio that there was a man in a plane twelve thousand feet above the gate and he wanted to drop in to escape the killers. My lover could not reach anyone in authority. Something had to be done, so we opened the gate and down came the man. He was the Brainless Wonder, but we didn't know that till we had the gate shut. My man ran to congratulate him on his escape from the killers and he was killed by the Boston King. Then this fellow ran and opened the gate and in swarmed the snakes. That was the end of Philadelphia. Of course it was easy to see what the thing meant, when it was too late. He made a grab at me and I kissed him and pulled him into the office and turned out the lights. The killers streamed past us. My God! I thought they would never stop. I wanted to warn you New Yorkers, not against the snakes, but against the killers of Boston, so I proposed to the Brainless Wonder that we use the emergency plane and get back to Boston. He had lost a little of his nerve;

the roar of the snakes and the cries of the people was a horrible mixture. So we started out, and after we got up in the air, I killed him—with the same dagger he had used on my lover, and then I sailed back and threw him down the hole of the air gate so one of the snakes could eat him. Of course that was the end of him.

"But those people in Boston are not going to rest till they kill the New Yorkers. You good people do not realize the hate those fools have for you. They never will forgive you for shutting them up by themselves—they are going to get you. There is a girl here; she has a red birth-mark on the back of her neck and that is why she wears her hair long. She is a spy. The Beautiful Spider sent her here the same time he sent me to Philadelphia. You better find her and send her through the one-way tunnel."

And with that the Golden Girl became unconscious again.

As far as Philadelphia was concerned, there was nothing to be done. Without loss of time, the tunnel between the doomed city and New York was tightly cemented. So long as the air gate of New York was closed, there was nothing to fear from the killers. But the Boston snakes were a different proposition.

In that city were thousands of criminals. One of these, to satisfy his lust for revenge, had deliberately wiped out one of the three cities of refuge even at the cost of his own life. In Boston there were many men as desperate. In what way would they strike at New York? And how could the Metropolis defend itself?

- There were just two places in the entire world now where human life was possible. One was New York, a rather decent place now for men and women to live, a crimeless city where the people were good because they had been bred good and wanted to be good; the other was the city of Boston, enforced city of refuge for the criminal, the pervert, the psychopathic personalities. It was a modernistic representation of the old idea of

heaven and hell, light and darkness, good and evil, day and night.

Each city had the same equipment, the same manufacturies for the necessities of life, the same protection for human life against the beasts of the wilderness. There were equal opportunities for enjoyment, pleasure, and amusements. The only difference was that one city was filled with good people and the other with bad people. All the good folks wanted was to be left alone; all the bad wanted was to destroy the good.

The Mayor of New York realized this. He could think of nothing else during the next few days. This alone was in his mind as he attended the memorial services held in memory of the dead of Philadelphia. The secret dread of a similar occurrence in New York City held him in insomnia's persistent chains. The more he thought, the more hopeless he felt. At last he determined to carefully review the history of these last eventful years in the story of the human race. Not being an eminent student, he called in a historian, a student of modern history, one who had a keen grasp on the swift rushing events of the world. He asked this man to begin with the first days of the killers in America and outline the eventful years since then. As the man talked, the Mayor listened with closed eyes. Finally the lecture came to an end with the services held in honor of the dead of Philadelphia. Thanking the historian, he dismissed him and sat alone, thinking to himself.

"In every crisis known to mankind," he mused, "since that first day in the tube there has been one outstanding figure and that is Long, the biologist. He has taken the lead and forced through to a successful ending every important step. I wonder how old he is now? I wonder whether he is mentally keen enough to face one more problem for the welfare of his beloved people? At least it will be worth while to talk to him about it."

And so he sent for Long.

In a few hours the man arrived. He did not look as old as his seventy years proclaimed him to be.

"I am glad you sent for me, Mr. Mayor," he exclaimed, "for I wanted an interview with you. Briefly, there are some friends of mine, twenty-five men and an equal number of women, who have been thinking over some facts in social life and we, the fifty-one of us, want permission to leave the city. We feel that we would be happier outside."

"But—why, it's impossible! How about the killers? What is the idea?"

"Simply this. We feel a lack of interest here. We feel that if the human race remains bottled up in this city of glass, that eventually it will die of weariness. Every day is the same. The former struggle that made life a gamble for our ancestors, also made life endurable. It was the uncertainty that added the vital charm; it was the struggle that made existence worth while. We are all well-educated; we have studied conditions in the wilderness around the cities. We want to go out there and conquer the wilderness like our ancestors did many generations ago. For a while we will live in caves. We will wage a war of extermination against these killers like our ancestors did against the cave bear and the saber-tooth tiger. Eventually we will win, for man the supreme animal must survive. The odds against us will be large, but that will make the struggle all the sweeter. May we go?"

The Mayor saw his chance.

"On one condition. That you rid us of the Boston menace."

"I thought of that. The fifty-one of us can no more live in the new world with the criminals than we can with the three-hundred-foot snakes. For the sake of our women and the unborn children, it will be necessary to exterminate them. I have a plan. I promise you that there will be no more Boston menace."

"You can go on that condition."

"Good."

The biologist smiled.

"You are anxious to rid the world of them, and so am I. By the way, I was wrong when I said that there were fifty-one of us. There are really fifty-two. Miss Gower is going with me as my bride."

"Miss Gower is going with you?"

"Yes, the Girl with the Golden Hair. I always was partial to that type, and when I met her and heard her story, I said to myself, 'Here is the woman that will best help me carve out a home for myself in the wilderness. And fortunately for me, she said she would. I told her that she was throwing herself away on an old man, but she said that I was just the kind of husband she wanted.'"

The mayor laughed.

"Always heard that every man had his weakness."

"Well, she's my weakness now. We will prepare things and start for Boston soon."

A few days later a fleet of airships thoroughly equipped for every emergency sailed out through the air gate of New York City. In this fleet were the self-appointed exiles. It was fortunate that they left when they did, for only a few hours later, the killers came north from their feast in Philadelphia and started to wait for something to happen, on the glass dome of the metropolis.

● Three miles from Boston the fleet cautiously settled to the ground. The place had not been selected in a haphazard manner. The objective had been the openings of the ventilating system of the city of Boston. There certain merchandise was unloaded, and Long addressed the colonists.

"When the cities of glass were first thought of," he said, "it was realized that some arrangement had to be made to supply the inhabitants with fresh air. Consequently, each city had an air tube constructed, through which fresh air could be constantly pumped into the city and at the same time the tube was so built that no wild animal could enter the city. Here we have a tube twenty feet in diameter. Once it reaches the city, it is divided and subdivided in such a way that eventually a fresh air tube enters every room of every house. The fresh air flows into the room like the water. The air is sucked into the tube with terrific force. We stand a thousand feet away from the main opening

and yet we can feel the draft. What I propose is simply this. I have a large supply of poisonous fluids which, when liberated from their steel containers, will become gases. These gases are far more terrible than those used in the former wars of the world. As soon as these reach the inside of the city of Boston, the people will die. I am not sure that they deserve to be killed but the fact remains that it is necessary to kill them to survive ourselves. In our freight ships we have a hundred of these steel cylinders. I carefully figured out the dilution that will take place when this gas spreads through Boston and I feel that we have enough to kill ten million persons and there are only about two hundred thousand there now. I want you to help me carry these cylinders close to the mouth of the tunnel and then turn the cocks. There will be no danger as far as we are concerned, because the draft will protect us."

The exiles at once started to carry out his orders. Not a moment was to be lost as the killers might appear at any time. At last the work was completed and the men and women started to return to their airships. A dull thud shook the earth and a few minutes later a one-passenger plane came soaring through the air. The pilot landed near the fleet of ships and, leaving his plane, walked over to the little group of New Yorkers.

"Well, this is a surprise," he exclaimed. "I never thought that I would find so many strangers so near Boston. Welcome to our city. Hello, Lizzie, what are you doing here with these high-brows? Sunday-school picnic?"

"That is the Beautiful Spider, Paul," explained Mrs. Long to her husband. "Perhaps you better break the news to him."

The Spider heard her.

"Perhaps you better hear my news first. I have real news to tell you. We have been working on the problem for some time, me and my friends. We planted a mess of high explosives on one side of the foundation of the glass dome of New

(Continued on page 994)

THE EMOTION METER

By

W. VARICK NEVINS, III

● A bell rang in the Physics Hall of Freedale College and the class of fourteen settled down for their usual lecture. Professor Miller, middle-aged, dark, and tall, cleared his throat and began to talk in his own quiet way.

"Before I begin my lecture on electromagnetism, I have a favor to ask of you. I would like each of you to bring three girls' pictures with you to class tomorrow."

A murmur ran quickly through the classroom as each student asked his neighbor what was in store for them.

Professor Miller ignored the confusion he had created and continued: "I should like it very much if one of these pictures would be of your best girl. If you are engaged, bring your fiancée's photograph. If not, your favorite girl friend of the moment will do. You all must have some preference. The other two photographs may be of anyone at all, an acquaintance, a movie actress, a newspaper picture, and so forth. Now before I go into any more detail, you probably would like to know the reason for all this. Well, I have been working on an apparatus of my own for about five years. I expect to present it to the world shortly, but, before I do so, I would like to make one final and conclusive test of its ability. Your coöperation will be greatly appreciated. You have probably all heard of the lie-detector which is now in use in some police departments in connection with crime. I have greatly improved upon it. My invention takes into consideration many more physical changes in the human body. It measures heartbeat,

breathing, body temperature, and increase or decrease of gland secretion. All of these are affected by emotion. My equipment will show truthfully which of the three pictures affects you the most emotionally. Of course love and hate cannot be distinguished by my invention; therefore please do not bring any photographs that can possibly stimulate anger. The way I wish to test the apparatus is to have each one of you look at your pictures one at a time. The one you like the best, or shall I say love, will give the highest reading on the scale. The reason I want to try just one picture of someone you really like is that I do not wish there to be any doubt in your mind about checking up with the machine. As I live alone, I have no one to test this upon but my class. I shall use the class time tomorrow for our experiment as it follows right along in the footsteps of the work we have been covering during the last month. Have any of you any questions or objections?"

"What will the machine be used for practically?" asked one.

"It has great possibilities in psychological work and psychoanalysis of individuals," was the answer, "and now, if there are no more questions, I shall continue with the lecture for today. We found that magnetism is due to"

* * *

The next day the class assembled as usual. All the students were carrying the pictures they had been asked to bring and quite a little kidding was going on. The experiment was the main topic of conversation but, so far, it had not been taken very seriously.

"I bet that cow in the background of your picture will give the highest reading for you, Earl," said one.

"All right, Ted, just wait until you start gazing at that flaming beauty you have there," was the reply accompanied by a jab in the ribs. "You'll break Professor Miller's machine."

One of the students had the poor sense to leave his pictures alone for a few minutes and was surprised to find that his fiancée had grown a full set of whiskers, in addition to becoming cross-eyed, in the meantime.

"I am glad to see that everyone is in such a good humor," laughed Professor Miller as the bell rang. "Now let us begin our experiment. First I must tell you a few more things concerning my invention. Here on my desk I have the amplifying unit and the meter which records the intensity of the emotion. It is not very complicated. It simply takes the impressions received from the person and amplifies each one according to its importance. The final result is shown by the needle on this scale. The higher the reading, the greater the emotional stress. As you see, I have hung a curtain around the table upon which I usually perform my demonstrations. The subject will go behind it and put on the equipment, then, as I instruct him, he will look at each picture for about one minute. I shall allow a short interval between each one in order to give time for the emotions to come back to normal. Of course, none of you will notice any change. The needle, however, will record accurately each slight difference. After you have tried each picture one at a time, I shall endeavor to tell you which one affects you the most emotionally. You shall check my result with what you know to be true in your own mind. After I finish with my experiment, it will not be necessary for one to know one's own mind. The machine will tell it all at a glance. All right now, who would like to be first?"

Everyone seemed to be rather reluctant at this point.

"Come, come, now, nothing is going to hurt you. It is absolutely harmless. I assure you I would not go through with

this if I thought there was the least bit of danger involved. No one will volunteer? Then I shall just shuffle your name cards and choose one at random. Is that more satisfactory?"

A murmur of agreement greeted this suggestion. Professor Miller mixed the attendance cards thoroughly, then selected one haphazardly. "The first name is William Sayles," he announced.

There was a sigh of relief from the rest of the class as Sayles walked slowly to the front of the class.

"Take your pictures behind the screen and I shall help you get ready," was the first request. "The rest of the class may come too so that I shall not have to repeat my instructions."

The remaining thirteen students followed and crowded around while Professor Miller helped Sayles adjust the apparatus. One plate clamped on his wrist, one over his heart and then a small object was placed under his tongue. The professor explained that the latter measured both the slight change in temperature and the glandular action, making use of the salivary glands as they were the easiest to reach and also reacted the best to emotion. After making sure that the rest of the class understood the equipment thoroughly, he plugged in on the electric light current and left Sayles alone behind the curtain.

"Hey, Sayles, how is the electrocution coming along?" called one of his classmates.

"I'm not dead yet," was the cheerful reply from the unseen subject.

"Please look at picture number one," called Professor Miller. In a moment the needle gradually rose and came to rest near 5.

"Wait a moment and then look at picture number two," said Professor Miller. Again the class saw the needle rise but this time it came to rest at 7.

"Now your last one," requested the professor.

Immediately the needle registered 52. In a moment Sayles was beside the

others. "Which one was it?" he asked eagerly.

"Picture number three wins by almost unanimous vote," smiled Professor Miller. "Is that correct?"

"Yes, sir; that was my fiancée," asserted Sayles.

"Good," said Professor Miller.

The next card to be chosen brought forth the name of Samuel Cibella. He was soon ready and his test began. The results were as follows: Picture number one: 6. Picture number two: 38. Picture number three: 1.

Professor Miller again told the subject which of the pictures he preferred and the result was affirmed. He then asked out of curiosity what one had given such a low emotional figure.

"Well, you see," said Cibella, "picture number three was a snapshot of my mother-in-law. The highest reading went with my wife's photo."

"Oh, I see," chuckled Professor Miller. "I didn't know you were married, or I might have guessed it."

Robert Butler was the next to be called and he grinned cheerfully as he went behind the curtain. His readings were interesting: Picture number one: 5. Picture number two: 48. Picture number three: 47.

"Number two seems to win by a very small margin," noted the professor. "May I ask what number three is that it should give such a close result?"

Butler blushed as he held it out to view. It was a movie actress of the infamous "it" type.

"Don't let your girl know about this," jibed a classmate near him. "Imagine letting a picture catch up with a real, live girl."

Butler hurriedly went back to his seat as the next name was announced. William Gathman came forward for his turn. The same procedure was gone through with the following results: Picture number one: 6. Picture number two: 35. Picture number three: 8.

Again Professor Miller agreed with the student's own choice but this time there

was a slight difference. Picture number two was Gathman's mother. He explained that he had no girl so he thought that this would be a good substitute.

"I am very happy to try my equipment under all sorts of conditions," was Professor Miller's remark. "Everything is going along much better than I had dared hope. So far my apparatus has done its work perfectly."

● RUSSELL Ricker raised his hand. "If you don't mind, I would like to try it next. I have only two pictures with me. I honestly do not know which of the two girls I think the most of. Your apparatus could settle my mind for once and for all. The trials this morning have convinced me of its value and I am willing to abide by its decision."

"I would be very glad—to have you be the next subject," agreed Professor Miller. "I hope my equipment may be of service to you."

"I am sure it will," was the reply. "I wonder which girl will be the lucky one?"

As Ricker disappeared, a low laugh followed this last statement. He was not very popular with the other students.

"Ready," called his voice, muffled somewhat by the temperature recorder.

"Look at picture number one," asked Professor Miller.

The needle hesitated, then slowly rose to the point marked 2.

"Now the other one," called the professor.

The result was exactly the same.

Professor Miller looked up in surprise. "Are you sure you did everything according to directions?" he asked.

"Yes, sir," came the reply. "What was the result?"

"There must be something wrong. Would you mind trying it again?"

A second trial gave exactly the same results, so Professor Miller went behind the curtain and made sure that everything was connected correctly. There seemed to be no trouble there, so he carefully inspected the amplifier and needle.

After a third trial and a reassurance from Ricker that the pictures were actually of two girls he knew, Professor Miller finally decided there was something radically wrong with his outfit. It had functioned perfectly up to this time, but there was no doubt about the fact that it was not recording correctly now. The time allotted for the class was almost over and Professor Miller turned his back to the amplifier in order to announce that the experiment would be continued the next day.

"Look, Professor," suddenly called one

of the members of the class. "It is working again."

Professor Miller wheeled to see the needle pressing hard against the 100 mark. No one else had recorded much more than half as high as that. He hurried over and looked behind the curtain. Ricker was intently gazing into a pocket mirror while he busily combed his hair. The equipment was still attached.

"My outfit is infallible," said Professor Miller to himself as he turned to dismiss the class.

THE END

TREAT AFTER TREAT

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SCIENCE FICTION LEAGUE



(Illustration by Paul)

Then his ruddy face darkened and he took a step toward the scientist. "Why, you damned—"

MASTER OF THE GENES

By

EDMOND HAMILTON

● Thorn Haddon got up suddenly from his bunk and crossed the dark adobe cell to the iron-barred door. He listened and heard the tramp of feet approaching in the corridor. He turned to where Jerry Lanham also was sitting up in his bunk.

"Here they come, Jerry," he said. "I suppose by all the laws of adventure-novels I ought to grip your hand and say, 'Good-bye, old pal,' in a tremulous voice."

"But they can't do it now!" protested Lanham, rubbing his eyes as he stood up. "We weren't to be shot till dawn and it's not midnight yet."

"They've advanced the hour, I suppose," shrugged Thorn.

"Wouldn't even give a guy a last night's sleep!" said Jerry wrathfully. "This is the last revolution I'll ever take part in, in Brazil here or anywhere else."

His big, broad-shouldered figure expressed a sense of injured indignation in every line, his blond, good-natured ruddy face frowning and his blue eyes full of resentment at the injustice. Then he yawned, spreading his shoulders until they threatened to burst from the tight-fitting black and red uniform he wore.

Thorn Haddon grinned crookedly at him. He was inches short of his comrade's height, more trimly and compactly built. He was dark, with close-cropped black hair, steady black eyes, and a firm mouth. He wore, like Jerry, the gaudy uniform of the late lamented revolution.

Light flared flickeringly down the dark corridor outside their cell as the tramping of feet grew louder. It came from torches carried by two of a column of four swarthy soldiers. At their head walked a stiff officer resplendent in green and gold,

● Perhaps the most interesting of the sciences is biology, the study of living things, and genetics, the branch concerning genes and chromosomes, may be called the most fascinating side-line.

We know that all the characteristics of a living thing are transmitted during conception to the offspring. The shape of the nose, the color of the hair, the length of the arms—uncountable thousands of regulations are governed by the nature of the microscopic genes.

If you do not know much about this subject, Mr. Hamilton's latest story, which is now before you, will further acquaint you with one of the greatest mysteries of science, will make chills run through you when you contemplate what terrible things can happen when the tiny genes are defected.

and a small man in white civilian suit and panama hat.

They stopped outside the cell and one of the soldiers unlocked its door. The officer and the man in civilian clothes entered the torch-lit cell.

"Why interrupt our slumbers, Colonel Escoba?" asked Thorn ironically of the officer. "The execution was scheduled for dawn."

"Yes, what's the idea of switching it to the middle of the night?" demanded Jerry.

"Be silent!" the colonel commanded them, and then turned to the civilian.

"These are the men, Doctor Alascia. Tough, stubborn brutes of *norteamericanos*—I would not recommend them to you."

"Yet they look like the very men I want," said the civilian. "Men who are strong and who can fight, if necessary."

"Oh, they can do that, God knows," Colonel Escoba ejaculated. "They led the revolution in this part of the Upper Amazon for two months before their troops deserted and we captured them."

The man in white surveyed the two Americans interestedly. He was a rather small man, the littleness of his hands and feet being almost effeminate. His face, even though middle-aged, was almost girlish in the smooth olive perfection of its features, the liquidity of his black eyes.

Thorn Haddon strained under the man's scrutiny. "What's all this got to do with our execution, colonel?" he demanded.

"It may be that there will be no execution at all, senhores," said the civilian. "It may not be necessary."

Thorn stared at him. "What do you mean?"

"I am about to explain," answered the other. "My name is Doctor Hermis Alascia, and I am a scientist, a geneticist, if you happen to know what that means. My home is at a mission village of Indians on a tributary sixty miles up the Amazon from here.

"I am in need of two—shall I say, helpers?—not scientific helpers, you understand, since you two do not look to me like scientists, but men who can fight, who can use weapons, and who will obey me implicitly.

"You look like such men to me. If you will promise to come with me and obey me no matter what happens, you will be pardoned. Colonel Escoba has agreed to that because of certain influence I have with the present government. What is your answer?"

Thorn reflected. "In other words," he said, "you want Jerry and me to act as your bodyguards." He turned to Lanham. "What do you say to it, Jerry?"

"Sure, let's take him up on it," the giant answered. "It's better than a lead breakfast, kid."

"Very well, we agree to your proposition," Thorn told the scientist.

Doctor Alascia's delicate olive face beamed. "That is splendid. You can leave with me now—my canoe is waiting to take me back up the river."

Then Colonel Escoba leaned threaten-

ingly toward the two Americans, raising his finger.

"Remember, no attempts to escape from the good doctor!" he warned. "If you try, you will never leave the country."

"We've given our word and we'll stand by it," Thorn told him stiffly.

"Of course, of course," said Doctor Alascia quickly. "I am sure there is no need for your warning, Colonel. I will not forget this favor," he added as they turned to the door. "They shall hear your name in the Palace."

"It is nothing," waved the officer gratefully, and added to the two Americans, "You will follow the good doctor."

They went out into the redder torchlight of the corridor, Lanham stooping as he followed Thorn through the low door.

Doctor Alascia and the colonel led the way down the corridor, conversing politely. The light of the torches carried by the soldiers in the rear threw great, wavering shadows of them on the white walls ahead.

They emerged from the squat old adobe prison into the night. Thorn Haddon felt as though a tight band across his chest had loosened as he went out. He had thought that when he next went through that door it would be to the dawn mists and the coughing rifles!

He breathed deep of the night air, heavy with the smells of river-rotted vegetation. As he went with the others down the single street of the dark little town, hearing the twang of music and shrill singing from the shuttered houses, he drank in freedom.

They came to the wooden pier at the end of the street. Out there in the darkness rolled the dark flood of the Amazon, silent and grand. At the pier's end clung the dim shape of a waiting canoe, its five Indian paddlers sitting motionless and silent.

Doctor Alascia and the Colonel Escoba parted, with Latin courtesies, on the pier and then the scientist turned to the two Americans. They took their

places, the scientist followed with a word to the steersman, and the canoe shot out onto the dark river.

● Next morning as the canoe crept up the mighty river under the broiling sun, Thorn asked the scientist the question that had been in his mind since their start. He and Jerry and the Brazilian were sitting in cramped positions in the shade of the little cabin amidships of the craft.

"Doctor, just what kind of trouble are you expecting up there at your village? You must have some definite fear or you wouldn't have come all the way down here to get a couple of guards."

Doctor Alascia looked thoughtfully at him. "I see no reason why you should not know," he said finally. "In the first place, I do not really think there will be any trouble at all. But in case there should be, I do not want my household to be unprotected."

"I told you that I was a geneticist, senhores. Well, it was out of my scientific interest that I established my home up in this village more than two years ago. I had heard that the Indians of this village were giving birth to weirdly abnormal children."

"Since my science is the study of heredity, that interested me, of course. I decided to study it fully, so I went up there with my daughter Concepcion and with a young man, Thomaz Patao, whom I took to build and superintend my plantation there."

"I have lived there since then, studying these abnormal children of the Indians. Every child born to them in the last few years has been utterly deformed and monstrous of body, and the Indians have been growing more and more superstitious and strange. Lately I have been thinking that in case they made a superstitious outbreak of some kind, my house should have protection."

"I understand," said Thorn thoughtfully. Then he asked, "What are they like, these abnormal children that have been born?"

"Like nothing you ever saw," Alascia told him. "They are incredible, some lacking limbs, some without vital organs, some born with extra limbs or organs—a gallery of monsters."

"Sure sounds like some garden-spot we're going to," commented Jerry Lanhams.

"What causes them to be born like that?" asked Thorn of the scientist.

"Defects in their genes, undoubtedly," Alascia said.

"Their genes?" Thorn repeated. "Remember, we're not scientists."

"You don't even know the principle of the genes?" the doctor queried. "Strange, that genetics of all sciences should be so little known by most—"

He broke off his musing. "But I can explain a little. The genes, senhor, are to heredity what atoms are to chemistry. They are the mechanism of heredity, the tiny things that determine the body's characteristics and that pass down in the germ-cells from generation to generation and so transmit those characteristics."

"Every human being begins life as a fertilized germ-cell or 'gamete' in the mother's body. And every such fertilized cell has in it, received from father and mother, a mass of little rod-like things called chromosomes in which are the genes that determine what kind of body that cell will develop into."

"These genes are tremendous in number and have each a definite function. Some control the color of the skin, some the color of the eyes, others the shape of the skull, the length of the fingers, the quality of the blood, and so on—every characteristic of the body is determined by the genes in the original germ cell."

"If the cell has in its nose-genes the gene that produces a Roman nose, the body that develops will have that kind of nose. If it has instead only the snub-nose gene, the nose will infallibly be snub. If it happens by accident to have no nose-genes at all, the body will have no nose."

"It is because of defects in their genes that the abnormal Indian children of my village are so born, without doubt. They

lack normal genes when they begin life as fertilized cells, and so their bodies cannot develop normally."

"But how does it come that their genes are not normal?" Thorn asked.

Doctor Alascia spread his hands. "That, senhores, is what I am trying to find out. I have spent two years in study and I confess I am as far from the answer as ever.

"Something has affected the gene-system of the Indians' babies from their very beginning as germ-cells, but what it is I have not yet discovered."

Later, when Doctor Alascia slept serenely in the shade, Thorn asked his partner, "What do you think of it, Jerry?"

"Sounds like a pretty screwy place to me," Lanham said, scratching his head. "But we gave our word to stick with him, so there's nothing we can do about it."

"Yes, we gave our word," Thorn said slowly. "Well, the place may not be so bad. He said we'd reach it in two days, so we'll soon see."

It was toward the close of the second day that they came into sight of the village. They had turned that morning from the ocean of the Amazon into a small tributary that flowed from the southwest. Now, as they rounded a bend in this solid-walled stream, Thorn and Jerry saw low hills on the right shore and below them an Indian village.

Thorn saw that it was a collection of a few hundred adobe huts with thatched roofs, dominated by a square adobe mission with a bell tower. To right and left of the village lay tilled plantation fields hacked from the surrounding jungle, and on the low hill above could be glimpsed a white, flat-roofed house half hidden by palms.

As Doctor Alascia's canoe approached the rude pier, Indians gathered silently there. They watched, coppery men and women in dirty white cotton shirts and trousers and skirts and broad straw hats. Then Thorn saw two white men and a girl push through them to the pier.

"My daughter and Thomaz have seen our approach," Doctor Alascia told Thorn and Jerry. "And Father Nunez, too."

When they stepped onto the pier, he kissed the girl fondly, and then made introductions.

"My daughter Concepcion, my superintendent Senhor Thomaz Patao, and the Father Nunez, senhores. The Senhores Haddon and Lanham," he told the three, "are to be my—guests."

Thorn bowed to them. The priest was a stout, rubicund man in black habit, his face hot and damp and troubled. The younger Brazilian was in white riding-clothes and polished boots, and had a clean, dark face and direct brown gaze.

He saw that Jerry's gaze was fixed admiringly on the girl. She was slim in a straight white silken dress, her black hair closely piled on her head. Her delicate olive face was much like that of the scientist, but Thorn detected shadows in her liquid eyes.

"Have there been any births since I left?" Alascia was asking the priest.

Father Nunez nodded anxiously. "One child—to Tina, the wife of Pelao."

"Another monster?" the scientist asked, and the priest nodded.

"Another monster, and one of the worst—a horrible thing, this one. The Indians have been even stranger since it happened.

"They no longer will come to the mission. I fear that they are slipping from the true faith."

Thomaz added seriously, "They will not work in the fields any more, either. The crops are all unharvested."

"But the new monster?" Alascia pressed. "It is different from the others? I must see it before we go up to the house. You will come with me, senhores? And you, Concepcion?"

The girl shuddered, her face pale. "No, father, I cannot bear to see any more of them. I will go back up with Thomaz."

She and the young Brazilian left them, and Thorn and Lanham followed Alascia and the priest through the village. Silent Indians watched them as they passed

and Thorn saw that the copper faces of all of them were solemn, steady. He was struck by the unnatural dead silence of the sun-baked place.

● In the semi-dark interior of one of the adobe huts they watched while Doctor Alascia fascinatedly examined the newest-born human abnormality. The Indian father and mother watched too from across the bare hut, stonily, as though without emotion.

Thorn felt a creeping of his flesh and heard Jerry swear under his breath as the scientist lifted the baby. The brown little thing was a pitiful travesty on humanity. It had no arms or legs, yet it had hands and feet. The hands grew directly from its shoulders, the feet directly from its hips or lower torso.

He was glad when the fascinated scientist finally put it down and turned to leave.

Alascia spoke to the Indian father as he left. "Do not feel too bad, Pelao. The little one will grow into a man—he will never have arms or legs, but he will live."

The Indian's voice was guttural with bursting emotion as he answered, "Of what good is it for him to live and grow when he is like that? He is cursed like all the others born since the curse came upon us."

"Do not think of curses, Pelao," said Father Nunez. "Pray to the good Jesus and the saints, who alone can help."

The Indian made no answer, his face working with repressed feelings. The priest sighed as they emerged into the sunlight.

● "They are all so—they will not listen any more to me but think a curse has been laid upon them. Truly, it seems a curse indeed, that child after child should be born a monster."

They parted from the priest at the mission door. "I will be down tomorrow to study this new one, Father," Alascia promised. "He is one of the strangest yet."

Thorn and Jerry saw other babies almost as strange, as they went through the village toward the hill. In baskets swing-

ing in the shade, or crawling on the floors of the bare huts, they saw infant monstrosities that seemed the spawn of some horrible nightmare.

Some lacked limbs altogether, were mere torsos. Others lacked eyes and ears and noses, their faces mere blanks of skin. One had a limp body that apparently was without skeleton and another had one great staring eye instead of the usual two.

Thorn was pale and Jerry was sweating when they got out of the village and climbed the hill toward the house in the palms.

"It's horrible," Thorn said. "Isn't there any way to stop it?"

Alascia shook his head. "It lies too deep for human remedy. Its cause is in the distorted, damaged genes with which they start life as germ-cells. But by trying to find out the cause of this condition of the genes, much can be learned that was not known before. That is why I am here."

Dinner that night in the candle-lit dining-room of the house on the hill seemed an oppressive meal to Thorn. Jerry's attention was all on the girl, but Concepcion Alascia ate silently, only exchanging a few words now and then with the serious young Thomaz.

Alascia, alone of them, talked much. In an interval of silence at the end of the meal, the candle flames sputtering in the heavy breeze from the screens, they heard a dim throbbing sound from the direction of the village, a steady, pulsing rhythm.

Young Thomaz gestured toward the village. "Their prayer-drums. They've been using them every night lately, calling on the jungle demons to lift their curse."

"Father Nunez is at his wits' end about it. And I don't like the way they're acting very well, myself."

Doctor Alascia rose from the table. "They'll get over it in time. The unusual always arouses their old superstitions. I'm going to my laboratory to record this new birth. You will pardon me?"

He went out of the room toward the low west wing of the house and they heard

him unlocking a door there.

Jerry Lanham managed to steer the girl out onto the veranda, and Thorn heard their voices out there in the dark as he sat talking with young Patao. After a few moments, he excused himself and went after the scientist.

He went along the corridor of the west wing until from behind the door at its end he could hear a crackling, snapping sound. He knocked, and when he got no response, opened the door. Inside was a laboratory fitted with shelves and tables of microscopic equipment, dissection tools, and many specimens in jars of alcohol.

At the center of the room swung a huge equipment like a giant X-Ray tube, blazing and crackling with incandescent violet, casting a weird glow on the white walls. It was connected electrically to a mass of transformers and a rack of great batteries.

Doctor Alascia was at a desk in the corner but when Thorn opened the door, he came at once toward him, barring his way in.

He told Thorn stiffly, "Senhor, no one here enters my laboratory but myself. It is a rule."

"Sorry," Thorn said. "I thought you didn't hear my knock for the racket that thing is making."

Alascia's manner relaxed. "It is only an electrical hobby of mine, that. But you wished to see me, senhor?"

Thorn nodded. "I just wanted to ask you exactly what you expect of us here. Are we to stand watches day and night?"

Alascia shook his head. "That won't be necessary. I simply want you to stay always near the house so that in case anything happens, you will be at hand. There are guns in the library cupboards and you men know how to use them if need arises. But I do not think it will arise."

"Very well, doctor," Thorn said. "Sorry to have disturbed you."

He went back to find the dining-room deserted. He was going out onto the veranda when Jerry came in, looking dejected.

"Well, I've been giving Concepcion the works, but I didn't even get to first base," he told Thorn. "I think she's stuck on Thomaz."

"You dumb ape, have you been making a fool of yourself again?" Thorn asked sharply. "If you have—"

He went out and, after a little search, found Concepcion Alascia standing in the checkered moonlight under the palms, absently fingering the white blossoms of a tall tropical shrub.

Thorn said to her abruptly, "Has that dumb partner of mine been bothering you?"

A fleeting smile crossed her delicate face. "The Senhor Lanham is very gallant," she said. "I think I like him."

Thorn was relieved. "I'm glad he didn't make as big a monkey of himself as usual."

He looked a little curiously at the girl's moonlit figure as she gazed silently at the flowers.

"Senhorita, may I venture the impertinence of a personal question? Why do you stay in this place? Your father has his scientific work to engross him but you—I should think that this God-forsaken place would be the last in the world where a girl would want to live."

Her voice dulled as she answered. "What you say is true, Senhor Haddon. But my father wishes me to stay here. He loves me so much, you see, so much that he would never listen to my going away, or marrying, or doing anything else that would take me from him."

Thorn nodded understandingly. "But those pitiable, horrible Indian children—how can you bear to live here where they are born? Or are you used to them?"

She shook her head, shudderingly. "How could I ever become used to them? Each new one fills me with as much horror as I felt when the first was born."

Haddon stared uncomprehendingly at her, astonished by her last words.

"But your father and you were not here when the first of them was born," he said.

"Yes, senhor, we were. It was not until almost a year after we came here to live

that these monstrous children began to be born."

"But your father told us—" Thorn started to say, then checked himself.

● He stood staring at the girl, a little frown on his face, until he heard steps behind him and young Patao came up.

Thorn excused himself, left the two together, and went into the house. He stood for some time in the living-room there, frowning into space as his mind searched for light.

Every moment the seed of suspicion planted suddenly in his mind grew stronger. He started abruptly toward the scientist's laboratory, then stopped, considered, and went instead to the library.

There he searched rapidly among large numbers of scientific works until he found a half-dozen that looked promising. Thorn sat down with them, tautly thumbing indexes and chapter-headings.

For the next hour he dug into the books, and finally found the information he sought. He read rapidly, puzzled by technical terms and symbols, but with the gist of it clear enough. When he laid down the books and got to his feet, he was quivering with raw horror.

He heard Doctor Alascia's voice in the living-room now and Thorn went there, his lips tightly compressed, his black eyes narrowed. The scientist was talking to Jerry, but as Thorn entered, the girl and the young plantation-superintendent came in from outside.

Young Patao looked worried. "The drums down there at the village have stopped," he said. "Something must have happened."

They listened. The pulsing rhythm of the drums had ceased and up from the distance came a chorus of wailing cries of despair.

They went out onto the veranda, looked down at the moonlit village of white, unreal-looking huts.

"There comes Father Nunez up the hill!" Thomaz exclaimed.

The stout priest's face was pale and his hands were shaking when he reached

the house. He was panting from the climb.

"Another—another monster just born, and the worst yet," he gasped. "Francisco's wife, her baby was just born and it has no head! Its eyes and mouth are in its breast. The Indians were all waiting to see if this baby would be abnormal too, and now they are crazy with despair. Perhaps you and Thomaz could quiet them a little, doctor."

"We will go at once," Alascia declared. "A child without a head!"

He and the young Brazilian started down the moonlit slope with the priest. The girl, with a little sob of horror, fled into the house.

Lanham would have started after the three but Thorn plucked him back.

"No, don't go, Jerry! There's something I've got to find out and this is our chance.

"Come on, we're going to the doctor's laboratory. Don't ask questions now," he added, as the blond giant looked puzzled.

Thorn led rapidly into the house and along the west-wing corridor to the door of the laboratory. The door was locked, but he could still hear from within the crackling of the giant tube.

He gave up trying the door and turned to his partner. "Get this door open, Jerry. You can do it."

"But the doctor said his laboratory—" Lanham stammered.

"Never mind what he said—do what I tell you and be quick," Thorn commanded.

"All right, then," the other answered, and put his shoulder against the door. He heaved mightily.

There was a slight cracking sound, then as Jerry heaved harder, the door burst inward.

Thorn stepped quickly inside. The great tube at the center of the laboratory was still alive with violet light, a flickering, uncanny luminescence. Its crackling, frying sound filled the room.

Thorn examined it while his companion stared perplexedly. He went from it to the desk in the corner and rapidly went through its drawers and divisions. He

took from one a mass of neatly type-written cards, cards that quivered in his hands as he read them.

"By God, it's as I thought—it's worse than I thought!" he exclaimed. His horror increased each passing minute.

Jerry went out into the corridor, but came hastily back. "I can hear voices, Thorn! Alascia and Thomaz must have got back."

"We'll wait here for him," Thorn said, his voice flat and deadly. "I can talk to him here."

They heard steps in the corridor a few moments later and then Doctor Alascia paused in the doorway of the laboratory.

His small figure was rigid with anger, his black eyes ominously cool as he surveyed them.

"So, senhores, at your first opportunity you break into my laboratory. What are you doing here?"

"We've been looking around," Thorn told him. He nodded at the great tube. "Especially at that tube there."

"A pretty powerful one, isn't it? So powerful that its radiations would affect everything within a mile of here."

The scientist's expression changed instantly. His eyes held the American's. "What do you mean?" he asked.

"I mean that I know!" choked Thorn. "I know what black hell's work you've been doing here for two years with that tube!"

"So the monsters down there in the village were due to defects in their genes? Yes, but you *caused* those defects in their genes!"

"You came here two years ago, and a year after you came, the first of the monsters was born. When I learned that, I thought at once that if these Indian babies' abnormality was really due to damaged genes, it was you who had somehow damaged them."

"In biological books in your library I found out how you could have done it. I read how Muller of the University of Texas discovered that X-Rays would disturb and damage the genes, and how he

had produced monsters in that way among fruit-flies.

"I remembered this huge X-Ray tube in your laboratory and saw that you'd been repeating Muller's experiments—with humans! You've changed the radiation from time to time and have kept records of the changes on these cards, to see what kind of abnormality each would produce. This tube has affected every embryo child conceived down in the village, has warped every one of them into a monster!"

"Thorn, *he* caused those things to be born?" asked Jerry Lanham incredulously. Then his ruddy face darkened and he took a step toward the scientist. "Why, you damned—"

Alascia stood coolly, raised one restraining hand. "One moment, senhores, before you do anything rash. When I saved your lives down at Sao Martino, you gave me your word to obey me implicitly—no matter what happened."

Jerry stopped, looked helplessly at Thorn. Haddon swallowed his choking wrath, his impulse to kill.

"We did give you our word," he said unsteadily. "It's all that keeps me from killing you where you stand."

"But, Thorn—" Lanham protested, his face still black with rage.

Thorn shook his head. "We gave our word, Jerry. God knows I regret it now that I know what a black-hearted fiend he is."

● Doctor Alascia walked over to the desk and turned to give them a contemptuous smile.

"The usual foggy humanitarian sentimentalities," he commented. "It is because of them that I have had to keep my real work here absolutely secret from everyone, why I have dared let no one know."

"But why are you doing it?" Thorn cried. "What in heaven's name is your reason for causing those Indian babies to be born so pitifully deformed?"

The scientist looked speculatively at him. "It is not a reason that you two could understand, I think. I am doing it

simply to increase knowledge of the human genes—my own knowledge, and the knowledge of all science.

"Why should science know so much of the gene system of fruit flies and so little of the human gene system? Simply because sentiment forbids experimenting with humans. I determined to disregard that sentiment, to make this place a laboratory for gene experiments on humans.

"I wanted to find out just what effect X-Rays of different types would have on the genes of unborn humans. I have found out, have discovered which human genes are affected by which rays. Some day this data I have amassed will be of invaluable benefit to science, will help geneticists of the future build a better human race."

"It was cruel, unhuman!" Thorn condemned. "To curse those poor devils of Indians with those twisted, monstrous children."

Jerry Lanham glared at the scientist. "I'd have my hands on his neck this minute if we hadn't made him that promise."

"But you did make it," Doctor Alascia said coolly. "And because you are bound by it, you are going to obey me and keep what you have learned to yourselves."

Thorn, trapped, helpless, his black eyes tormented with his emotion, gestured desperately toward the giant, throbbing tube.

"But you'll at least stop this devil's work now? You'll do that?"

"My work is going on," the scientist said inflexibly. "That tube is going to continue radiating as it has radiated for almost two years, is going to continue affecting the genes of every child conceived here."

"Every child born here will be a monster, the same as during the last year. But every child will add to my knowledge."

There was a scream from the doorway and the three men jerked sharply around. Concepcion Alascia stood in the opening.

Her face was deathly white, her dark

eyes preternaturally large as she stared at her father like one hypnotized.

"I heard," she said in a trembling whisper. "I came to see what delayed you and I heard—heard you say that you had caused the monsters to be born, that every child born here will be born so. Is it true?"

Alascia, his face troubled and anxious, moved quickly toward her. "Concepcion, you heard? But you must not pay any attention, you must go."

"Tell me, is it true?" she demanded, her dilated eyes staring into his.

He nodded slowly. "It is. But you must not judge rashly. It is for the cause of science—"

"For the cause of science?" she repeated, then burst into hysterical laughter that tore at Thorn's nerves.

"My baby will be born like those down in the village, for the cause of science!"

"Your baby?" The scientist's face went gray. "What do you mean?"

"I mean that I, too, within a few months will have a baby, one that you have condemned to be born a monster! Thomaz and I—we loved but knew you would forbid my marriage—we had Father Nunez marry us secretly. I thought that you would forgive when I told you that I was to have a child, your grandchild—"

She reeled back from the door into the corridor, back toward the other part of the house.

Thorn and Jerry, watching in fascinated horror, saw Alascia stagger on his feet like a drunken man.

The scientist's face worked, his eyes staring unseeing into nothingness, his lips moving.

"Concepcion's child—my grandchild—"

A shot cracked somewhere in the house.

"Concepcion!" yelled the scientist, and pitched through the door. Thorn and Lanham ran after him down the corridor, burst with him into the library.

The girl lay there on the floor with a pistol in her hand and blood on her face and breast. Stooping to her was Thomaz Patao. He got dazedly to his feet, looked

slowly around until he saw the scientist. His eyes fastened on Alascia.

"She told me," he said, almost quietly, and then he suddenly shrieked, "*She told me!* She told me what you'd done and then killed herself before I could prevent it. And now I am going to kill you, but not with a gun. That would be too easy. I'm going to let the Indians do it; do you hear? I'm going down and tell them who caused their children to be born monsters. I'm going to tell them!"

- With the cry, Thomaz bounded madly out of the library. They heard his hoarse voice still crying out as he ran out into the dark, down the slope toward the village.

Alascia knelt beside the girl's silent form, gathered her tenderly into his arms. With his handkerchief he wiped away the blood from her mouth.

"Concepcion," he said, his voice low. He looked up, his delicate face wearing a strange smile.

"She was my daughter, senhores. You comprehend? When she was but a little girl she would watch me while I worked. She would say, 'Why do you do that, father?' or 'What is that, father?' and I would say, 'Hush, do not annoy father.'"

From down in the village, in the dark, burst a distant yell of mad, frenzied rage from hundreds of throats, beast-like, heart-checking.

It ululated up through the night in a chorus of insensate hate, like the raging explosion of long-pent-up emotion.

"Thomaz has told them!" Jerry Lanham exclaimed. "They'll be up here in minutes!"

He ripped open the cupboards of the library, jerked forth heavy pistols and ammunition-belts.

Thorn bent swiftly and shook the dreaming scientist's shoulder.

"Senhor, you've got to run for it—those Indians won't leave anything alive in this house. God knows I don't want even now to save you but we promised and we'll do it. But quick—there's little

time! They've probably killed Thomaz down there already!"

Alascia listened to the swelling clamor of hate coming up the hill and rose swiftly to his feet.

"You are right, senhores. There is little time."

He ran from the library, back along the corridor toward the laboratory. Thorn and Jerry followed, buckling on the pistols as they ran. They heard the beast-like roar of the mob louder now, saw a flicker of torches coming up the slope as they passed a window.

They burst into the laboratory to find Alascia swiftly sorting the record-cards, tossing some aside, banding others together.

He thrust the packet into Thorn's hands. "These records of my work—get them to someone of scientific eminence; see that they are not lost."

"Come on, there's no time to lose!" Thorn cried as he thrust them into his pocket. "We'll circle to the river and get a canoe."

Alascia shook his head quietly. "You, senhores, not I. Go. I release you from your promise. I prefer to stay here with my daughter."

He walked quietly, quickly, back down the corridor toward the library before they could prevent it.

There was a mad cry from hundreds of Indian throats as the crowd poured up onto the crest of the hill. Thorn made to run after the scientist, but Jerry held him. "Thorn, don't go! The man wants to die, and we'll die with him if we don't get out of here now!"

"Quick, then!" Thorn exclaimed. "Out this window and down the other side of the hill!"

They scrambled through the window on the opposite side of the house from the village and mob, dropped in the darkness.

Fifteen minutes later Thorn and Jerry had circled back through the tilled fields to the village. It was deserted, its inhabitants all in the mad mob on the hilltop, and quickly the two Americans found a

canoe, piled paddles, fish spears, water jugs into it, and then sent it spinning out onto the dark river.

They paddled hard and rapidly. The craft shot down between the dark jungle walls. As they came to the bend, a crimson glow fell on the black water and they looked up to see red flames breaking from the house of Alascia: Then they were around the bend and in the darkness with the jungle silence, the jungle peace.

They laid down their paddles and drifted while they regained breath. Thorn took the pack of typed cards from his pocket.

He looked thoughtfully at them and Jerry marveled, "He wouldn't get away himself but he wanted you to get those cards away! Can you beat it, a guy like that?"

Thorn nodded. "He was a scientist, whatever else he may have been. And they're a queer breed—a queer breed."

He put the cards back into his pocket and picked up his paddle. "All right, Jerry, we've a long way to go. Let's get going."

"Okay, brother," said Jerry as he dug his paddle deep. "And after this we stick strictly to revolutions!"

THE END

"HOW DO YOU DO IT?"

—that is the question that has been repeated to us so often during the past year. "How do you get so many new stories? Although you present many new authors, most of your stories are amazingly original—much better than those by the "masters" in other magazines. "How do you do it?" our readers ask. Our authors could tell you. It reflects on the editorial treatment given the stories submitted to us—particularly the *rejected* ones. We have parted from convention and actually tell each author what is wrong with his story. How can an author know what is wrong with his work, or how he can improve future efforts, if all he receives is a terse rejection slip stating that "We are sorry we cannot use your story, and thank you for letting us read it"? Our narrow policy demands stories with *original* plots, *new* development, and *new* scientific theories. Our authors must produce this kind of material or refrain from eating, as far as we are concerned. It is not a simple matter for either the editor or the author. The editor must constantly impress this idea and make the author notice its importance, and the author must understand and put some extra concentration into his work. His brain-child must be a distinct individual and not "one of the mob." A good author can turn out hack-work in his sleep, but even the best must tax his mental resources to produce a classic that will not be "just another story." The same can be said for the readers. You can read "just another story" and not know what you have read after you have finished, half the time, but an *original* story, such as the science-fiction appearing in *WONDER STORIES*, will not let you do this; it will prod into your imagination and excite it to such an extent that you cannot help being utterly engrossed in the tale, oblivious of all else. You simply can't help this, because its newness strikes a responding chord in your consciousness. Our stories are the type that make you sit in thought for a long time after you have read "The End," and you will not go on immediately to the next story with a "ho-hum" feeling. Each story leads you into a new train of thought—sometimes one of great value. It is well known that science-fiction stories have inspired young experimenters to make startling discoveries. Our stories make you *wonder*, and that's why the magazine is named

WONDER STORIES

"IN CAVERNS BELOW"

by Stanton A. Coblentz

Is our next serial, starting in our March issue

WATCH FOR IT!



(Illustration by Paul)

And then it wasn't unusual to see a particularly large man dressed in ancient Roman fashion.

COSMIC JOKE

By LESLIE F. STONE

● No one connected the strange disease of world giantism and the unprecedented fall of meteors into the sun as cause and effect, not for many months after; and it was for young Jenson Ferril, a boy just out of the university, to point out the fact that both events had come together; even as the sun, following its big meal of meteors, had suddenly, overnight as it seemed, shot up the scale of brilliancy until it was impossible to look upon it without smoked glasses. Not that Sol generated more heat—rather it was found that the warmth of the sun had lessened several degrees, so that during the summer the thermometers registered correspondingly lower than they had the previous summer.

The first hint of the unusual meteoric fall had come in early June. Earth lay out of the path; in fact, it was on the opposite side of the sun. Only by accident, on the night of June 11th, did an astronomer discover them as he studied the great star clouds in Sagittarius which he found oddly obscured by dark, moving blotches.

The very fact that he was able to discern the movement in the oncoming dots of blackness showed them to be quite close—already in the neighborhood of Jupiter, just then traversing the sky at that point. For several nights he watched the formation, learning that it was made up of hundreds of meteors, headed directly for the sun. When he made the announcement of his discovery, they were easily discernible, moving upon Sol in a dense mass.

Observers computed that the largest was the size of a small moon, about a thousand miles in diameter, while the smallest appeared as particles of dust. They could be seen cutting a wide, dark

● After an absence of several years, you will be glad to see that Leslie F. Stone is again appearing in our pages. This author has been quite a favorite in the past.

All we really know about the pituitary gland—situated in the brain—is that it controls the growth of the body. A few stories have already appeared concerning this peculiar gland about which so little is known, but nothing like the present story has ever appeared in science-fiction before.

In other words, we have here a story that really shows itself a good example of the new type of story that our policy calls for—new theories, refreshing plot, different development—an entirely original tale. You are sure to like it.

path in the sky, blotting out the stars behind from far beyond the outermost confines of the solar system. Their rate of acceleration was estimated to be three hundred miles per second, but from whence they originated could not be determined, except that they came from the apparent position of Sagittarius.

From Earth's station across the void, the sun's reception of this Gargantuan meal could not be observed—and it was more than a month following their discovery that the added brilliancy of the sun began to show itself.

Yearly, hundreds of meteors are known to fall into the sun, as they fall upon all its planets, but never before had such a phenomenal descent been noted, and astronomers fought pro and con concerning the possibilities of what this giant dinner would have upon our system. Yet, as already stated, no appreciable change in the amount of radiation from the sun was observed. No one in his wildest imagination could have guessed the real effect that mass of meteors was to have upon the life of our planet.

It was in early September that a change did commence to take place among Earth's billions. Later it was found that not only man had been so affected, but likewise, all the animal world, mammalia, reptile, marine, bird-life, insects . . .

● Peering into his mirror as he lathered his chin for the usual morning shave, George Rock was puzzled. For years he had detested the high-hung cabinet mirror above the basin. Only by stretching to full height was it possible for him to see his Adam's apple above the rim of the glass. George was only five feet tall. But for the blow it would have given his egotism, he would have used a footstool, but to do so would have been to acknowledge the fact, a fact he always denied, that his wife was actually half an inch taller than he. Had she an Adam's apple, she could have seen hers without stretching. Therefore, George was puzzled this morning as he realized that he could, without elongating himself, see to shave the upright hairs growing on his neck. Laying down his razor, he looked carefully at the plaster around the cabinet to determine whether, unknown to himself, his wife had had the cabinet lowered.

● Six-year-old Henry Bechhold half threw himself down the stairs, shrieking as he came. "Ma—Ma—I've grewed an inch—I've grewed an inch . . ."

"Grown, Henry. Never say 'grewed,'" corrected his mother reproachfully.

The child looked at her with disapproval. "But see—last night Nanny measured me—and this morning I grew—grown an inch . . ."

"What's this?" demanded the father from the middle of his morning paper. "An inch you've grown overnight? But that's ridiculous. Come, I'll measure you, my lad."

● There was exasperation in the voice of Mrs. Todhunter Lane. At her feet, on her knees, crouched her maid, a tape-measure in her hand. "I can't understand it. I distinctly told the seamstress the

dress must be exactly seven inches off the floor!"

"But, madame, eet is on-ly wan haf inch shor-ter . . ."

"Only—only! Louise, go immediately and telephone Hautmann's. I shall send the dress back this very morning. Half an inch—humph!"

● "What is this, anyway? What're you people trying to pull off on me?" demanded Cedric Hume—the Hume of Colossal Pictures. Grouped around the director were a dozen scantily clad beauties, technicians, electricians, his assistant director, three camera men, two script girls, etc., while languidly leaning against a near-by wall was Miss Gloria Moore, star of the current Hume opus of feminine beauty. In front of him was a large wooden frame, the center of which had been cut out, in profile, to the proportions of the so-called Perfect Venus, from which the extravaganza was taking its title.

"But, Mr. Hume, yesterday they all fitted. You know we've taken months singling out girls of the same build as Miss Moore, and . . ."

"And today we find that not one of them fits—they're all too tall!"

Gaybor, the assistant director, sadly shook his head. He couldn't understand it. Last night he had a little celebration all his own over the fact that the twelve girls who duplicated Miss Moore's form and figure were, at last, gathered under the Colossal roof. Suddenly a gleam came into his eye.

"Miss Moore, I wonder if you'd be kind enough to step into the frame," he suggested.

And because she was that sort, the young woman complied, moving across the stage with lithesome grace. Carefully she slipped half her body through the cut-out, then something like surprise flitted over her face. Yesterday, the frame had fitted like a glove—today she bumped her head—she was half an inch or so too tall!

There was an explosion next to Gaybor. It was Hume. "This is an outrage.

Someone's switched frames on us. Someone'll pay for this!"

● Gary Silby stared dubiously at his trousers, fresh from the cleaners. "Damn," he ejaculated, "that blankety blank cleaner's shrunk my last pair of flannels."

● In the midget village at the San Francisco World's Fair there was wholesale consternation. Rising from their diminutive beds with the morning, each and every midget was flabbergasted to discover that he had grown from a half-inch to an inch higher in the night—and in a Lilliputian village, where furniture, utensils, and clothing are made exactly to the scale of the users, half-inch growth can spell ruin.

"Not a word of this to the ground's manager," warned Tim Tom Thumb, smallest midget of the lot, who likewise was the troupe's personal manager. "Today, when the crowds get here, we must all act perfectly natural; don't let on by a single expression that anything is different, understand?"

● In the nursery of the Allison Hospital, two nurses were conferring. "I can't understand it," said Nurse Talbot. "I've never seen such phenomenal growth before in my life. According to the charts, these two babies have suddenly grown an inch or more." She pointed to some charts on the table before her.

"Yes, and so have these," observed Nurse Morton, holding out two more charts. "Now, this baby was born last night, 8:12 P. M.," she added as she tapped the top sheet of paper. "It was registered twenty and one-half inches long—this morning, in verifying, I discovered that the baby is twenty-one and one-half inches. I took my measuring rule up to the delivery room to compare it with theirs up there, but there's nothing wrong about them."

"Well, something is wrong. Come along, I'm going to remeasure every baby in this nursery!"

● The first and second days of the unique growth of the world's population was not so terrifying as it was to become in the weeks to follow. At first, people had been content to believe that the changes they had noted were due to faulty measuring rods, to practical jokers, or to incompetent workmen.

On the second day, however, George Rock, who firmly believed his wife had secretly lowered his cabinet mirror for him, was puzzled and worried. Why should his wife lower the cabinet for the second time? Why had she not completed the job all at once, if she wanted it at a more convenient height? He sought her out. She jumped when he addressed her.

"I lower the bathroom cabinet, George? How silly. Why should I do it? I—I thought you'd done it"

"I—I—then, then you've not had it done—then—then I'm actually—growing?" She looked up with round, startled eyes.

"Stand up, woman!" he ordered in happy wonder, but the happiness died from his voice as they stood shoulder to shoulder before the mirror. His wife, if anything, was even taller than before, almost an inch taller than himself!

On the second morning, young Henry Bechhold repeated his performance of the previous day, racing down the stairs in the same headlong flight. "Ma—Pa—I've grown—grown another inch!"

Mrs. Todhunter Lane was again trying on the dress which, for a second time, had come from the Hautmann alteration department. Again there was exasperation in her voice. "The fools—the fools—they've made a mistake again—why they never so much as touched it, Louise, it's still a half-inch short—"

"Oh, but Madame, they have. I can see by the hem. There's thees note, too, from the seamstress. She says the dress, eet *positive*-ly have been lengthened fully haf inch as you requested eet!"

"Nonsense, Louise. You can see by your tape-measure that they haven't touched it."

"No, madame."

"What do you mean? Can't you see—?"

"Will madame be so good as to slip into thees gown? Eet is the proper length, no?"

Mrs. Todhunter Lane looked wonderingly at her maid, then with a strange look in her eye, accepted the dress the girl held out for her. She was on tenderhooks while Louise dutifully applied the tape-measure. With a little cry, the maid looked up, holding the measure in her hand. "See, madame, thees dress, eet is just *eight* inches from the floor. Last week, when you bought eet, eet was seven inches from the floor!"

Mrs. Lane had to grope her way to a chair. "Louise," she breathed in horrified tones, "I've—I've grown an inch!"—she was already uncomfortably close to six feet tall.

Louise nodded. "Yes, Madame."

● "I'm going to ruin somebody for this!" screamed Cedric Hume. "Gaybor, find out what they've done with the Perfect Venus frame, the new one—this is the same one we had yesterday. They've been switched, I tell you, and somebody's *going to pay!*"

Hume referred to the fact that, although a new cut-out of the Venus had been set up today—like the one of yesterday, it was too short, by a half-inch or so, even though Gaybor and he had stood on the ground watching the making of the new cut-out, had measured it themselves when it was done and put one girl after another through it, together with Gloria Moore. And for the second time, it was too short.

Gaybor shook his head. "No one switched frames on us, Mr. Hume. I'm sure of that. You see, last night I took it home with me—sat by it all evening, set it up beside my bed. No, no one switched it!"

"They did, while you slept. Why, next you'll be saying that the girls have all grown half an inch."

"No, Mr. Hume. I—er—I believe they've all grown an inch. Wait—wait, Mr. Hume. What is your height?"

"Me? Why I'm five ten—but what's that to do with this mess—the girls?"

"Here's a tape-measure, Mr. Hume. Will you please stand by this wall? Ah—just as I suspected—see, you're five foot ten and nine-tenths tall. I thought yesterday your trousers were short on you—this morning they're positively too short. They're catching you in the crotch too, aren't they? Mine are."

● So it was on the second day. Men and women, all over the country, all over the world, were complaining of too short trousers, too short skirts. Alteration departments in dozens of shops were wringing their hands over the deluge of newly bought clothing returned because of poor fit; cleaning establishments were horrified at the number of newly cleaned garments returned because they had been "shrunk."

In the midget village, the consternation was without parallel. Things had been bad enough on the previous day, with the morale of the little people sunk low because of the inexplicable growth of all the troupe, but on the second day it was absolutely heartrending. Those who had grown half an inch the previous night now found themselves a full inch taller than heretofore; those who had grown an inch in one night were now a good two inches higher. There was no hiding the fact any longer; several were forced to stoop on entering doors, to wiggle their bodies so as to get knees under a table. Tim Tom Thumb heaved a tremendous man-sized sigh. He saw the Lilliputians already ousted from their village, contracts cancelled, incomes ceased. A few days more of this *outré* growth, and they'd all be normal people, forced to adapt themselves to a normal world, robbed of their living as freaks!

Mothers were aghast at the untoward rapid growth of their children; infants, toddlers, school-children, young things in their teens were all growing at a rapid rate. Clothing that had been expected to last them throughout the year was outgrown overnight, shoes grew too tight, hats no longer fitted.

In the nursery of the Allison Hospital,

Miss Talbot faced her assistant with what amounted to tears in her eyes. "It's impossible, unbelievable. Every blessed baby in this nursery has grown from one to two inches in two days."

In schools all over the land, teachers of the lower grades stared wonderingly at children who no longer fitted under the small desks provided for them, that a dozen classes had sat in before their time. It appeared that a whole corps of men would have to be imported to readjust the seats and desks.

It was on the afternoon of this second day that newspapers took cognizance of what was happening in the world. All morning, stories of freak growth had been coming in to the offices, reporters frantic with trying to verify them all. Shortly following the afternoon edition relating these many incidents, cables began to come in reciting items from all over the world, from Europe, from Asia, from Africa, from Australia, from the South Seas, from Antarctica, from Alaska—items all dealing with the strange inexplicable growth of people in every walk of life, of every class.

Everything else was crowded out of the papers; there was only one subject to be discussed, one topic of conversation that interested the man on the street.

At first, there were those people like George Rock who rejoiced over the change, only to be disappointed at discovering that all his neighbors and friends were experiencing the same thing. There were women like Mrs. Todhunter Lane who at first grew terrified over the fact that they, who were abnormally tall for their sex, were growing still taller. Their fears modified somewhat when it was found that their less tall sisters were growing in the selfsame manner.

There were bad moments in some of the picture studios when it was realized that scenes must be done over, skirts lengthened before actresses could go on, new suits of clothing bought for the actors before they could complete half-done scenes. Cedric Hume solved the problem of his

Perfect Venus sequence by ordering a new cut made each day for the expanding charms of his Venuses—although when the picture was at last completed, several weeks later, it found its title changed to "The Perfect Juno!"

- Clothing emporiums were the first to be harassed by the wholesale growth of mankind. For a while they had unprecedented sales on large sizes, but that could not last forever, and soon no store anywhere had one out-size suit or dress—as large sizes are called—to sell. Those who had bought new clothing a few days previous were already returning for larger, longer suits and gowns. Manufacturers were driven to their wits' ends trying to supply the demand. Dressmakers were sewing their fingers to the bone; tailors were going crazy; mothers were weeping as they sought to keep their growing children properly clothed.

In less than a week not a man, woman or child was wearing clothes of the correct length—soon, it was considered quite the thing to wear knee pants, knee skirts—but even they could not last; knees began to appear below trouser cuff and skirt hem, thighs began to show. And then it wasn't unusual to see a particularly large man dressed in ancient Roman fashion, a great square of cloth draped gracefully about his huge frame.

The English manufacturers of the new elastic cloth,* cloth treated with rubber that fitted the form, whatever its size or shape, sold their complete output overnight. In fact, every type of cloth, cotton, silks, serges, tweeds, everything was bought up by a panicky population trying to keep itself clothed. More and more varied became the styles on the street, more evident the Roman togas.

In two weeks' time a quick survey showed that the world's population had grown from four to eight inches; the rate among adolescents, those whose bony structures gave more readily to the new

*Such a cloth is being experimented with in England, and is to be put on the market shortly. It is claimed to be both wrinkleless and easy to fit, since one suit will fit any size.

stresses put upon it, was more rapid; just as the aged, unable to adjust their brittle bones to the unprecedented changes, were dying like flies, falling in their tracks, retiring at night, never to reawaken.

Soon, it was not only clothing dealers who suffered from the new disease of giantism. Furniture manufacturers were added to the lists of those whose merchandise did not fit. Beds were found to be getting too short for the average individual, not to mention the ordinary over-the-average six-footers who were now from six feet six to eight or nine inches tall. Children's cribs were being thrown into discard by the wholesale. In another few weeks it was evident that likewise tables would be too low, legs of chairs not high enough.

Next came car trouble. People began to complain of the smallness of automobiles, the fact that knees no longer fitted under driving wheels, that the seats were altogether too low, that the cars did not permit sufficient leg room for expanding limbs.

Growth, however, had not stopped at length. Men, women, and children were growing proportionately broader, in shoulders, in hips, in chests, thighs, and heads. The next thing to happen was dissatisfaction with homes. Once there had been only the over-tall to complain, but their complaints had been in the minority. Now everyone was claiming that doors were neither high enough, nor wide enough—people were growing too close to the ceiling. They demanded larger, higher rooms, wider doors and window frames, higher steps.

In a month the world's population had all grown on an average of a foot, in two months two and a half feet, for the growth was found not to be entirely stable, becoming more rapid as the weeks went on. Builders already foresaw the discarding of present-day cities, since such modern structures as the Chrysler and Empire State Buildings must needs be torn down to make room for taller, roomier structures built upon the new scale required by the New Man.

Of the main industries disarranged by the giantism of the people, the companies providing foods, groceries, manufacturers, dairymen, farmers had nothing to complain of, for foodstuffs were in big demand; dealers were doing a land-office business for the simple reason that with the increase in size of man came the increase in his appetite. Growing bodies demand food; people were eating prodigious meals, nibbling sweets, large quantities of fruits, etc., all through the day in an effort to supply the demands of their multiplying cells.

Here and there scientists tried to solve the riddle, explain the untoward, unnatural growth of man and the animals for, as stated previously, even the animals were growing—horses and cows were expanding hand over hand, large dogs were becoming larger dogs, toy dogs deserted their class, even the mice and rats were demanding larger quarters, coming out from between the walls that had been their homes but which cramped them now. Zoos were rushing orders for new cages to contain their expanding collections. Insects became enlarged overnight; huge bewildered ants could be seen milling around hills that could no longer contain them, bees were as big as small humming birds, mosquitos grew as large as bees.

Foods were analyzed, the soil given careful examination; sunlight was put through filters, but it was for the young college student to point out that world giantism had come only after the arrival of the huge meteor swarm from space, that the unknown metal it contained had been converted into rays that attacked the pituitary gland, over-activating it so that the unusual animal growth followed.

Years of study of these odd little ductless glands, smaller than a pea, had not brought to light much knowledge concerning their effect upon growth, although of recent years the medical profession has found a means of controlling the glands by the use of certain salts and a certain diet. The fact that they could be affected by light rays opened up a new field of thought. But it was next to impossible to

attempt to regulate the pituitary and thyroid glands of a world's population.

• Three months passed by, and now it was discovered that mankind grew no more. The average height for men was found to be seven feet three inches, the average height for women, three inches under seven feet. Of course there were exceptions to the rule, and it was nothing to see a man a good foot taller than his fellows, women a foot shorter. It was decided that the last morsel of the meteor swarm had been eaten up by the sun, and man could depend upon it that he would not be subjected to any further changes.

But what about the world around him? Except for the animals that had grown in proportion to himself, man found his world rather cramped. Already the work of building bigger, wider homes was going on, furniture was being made to fit his increased proportions, automobile manufacturers were already meeting the demands for larger, roomier cars; and in the downtown sections of cities, contractors were already busy tearing down old and not-so-old office buildings that were

to be replaced by taller, finer, more modern edifices.

Actually, the disease of world giantism had proven a benefit to mankind. With business at a standstill at its offset, there was a new activity in all its branches, and even those businesses not affected directly, felt the boom and profited by general conditions. Of course, people realized that once the new demand was supplied, business would settle into its old routine, but that did not matter, since for the first time in many years old debts were to be paid, moratoriums lifted, back taxes picked up, mortgages canceled.

It was the farmers who were more directly affected than the rest of the population, and they had reason to believe that their prosperity would continue. With his increased size, man's appetite had grown accordingly.

Thus, the coming of the meteor swarm was in itself a great blessing to mankind, a cosmic joke that had boomeranged upon itself, so that it was now man's turn to laugh and enjoy the humor to its fullest capacity.

THE END

LOGIC IN SCIENCE-FICTION

Just what is "logic"? The dictionary states that it is "correct and accurate reasoning." Reasoning—that is the word we want. A thing must be *reasonable* to be convincing, and this is particularly the case in science-fiction. It is so easy for revolutionary scientific ideas, such as those which appear in science-fiction, to fall flat and make the reader think he is reading a fairy tale instead of a science-fiction story which was supposedly written for intelligent people whose minds run in a logical vein. We have noticed this type of story appearing in other science-fiction magazines—stories with new scientific theories, yes, but so *impossible* (and that word is very rare in science-fiction) scientifically that you become immediately disgusted with the stories. They contradict known scientific laws and propound ideas that have no basis at all upon fact, and if you have had as much as sixth-grade geography, you immediately see the *implausibility* of it all. When we ask for new scientific theories from our authors, we demand that they be *logical* ones—we are very emphatic about this. Some authors get the mistaken idea that anything *new*, whether within the laws of Nature or not, is what we are looking for. For instance, we once received a story in which there was a drug for speeding up the growth of trees. The drug was injected into a tree and the tree grew—and grew and grew and grew, until it was *ten times* the size of the earth!—which is utterly impossible. You can't get something out of nothing, and furthermore, only a very small portion of the earth could be used in causing the tree to grow, even if the powers of the drug were infinite. This is only one example out of hundreds. The idea is new, all right, but so unconvincing, because there is not the slightest chance that it could ever happen, that it makes "Alice in Wonderland" a candidate insertion for the *Congressional Record*. Some of the very best authors of "other" magazines have failed to sell to WONDER STORIES for this very reason, which is not an objection elsewhere. We believe that our readers want *science-fiction*, and we demand that the science be plausible. For fairy tales we recommend Grimm's and the "Arabian Nights." For *logical* science-fiction, read

WONDER STORIES



(Illustration by Paul)

They had wars and much disagreement.

DAWN TO DUSK

By EANDO BINDER

PART THREE

Conclusion

WHAT HAS GONE BEFORE:

● Professor Reinhardt invites six men to his home in Boston, five of whom are distinguished, world-renowned scientists, the other being a young chemist friend of his. He tells them that he has discovered the secret of suspended animation and intends to go to sleep, with any who will accompany him, for ten to twenty thousand years. All of them refuse, laughing at his crazy idea, except the young chemist and two of the scientists who go with him into the long sleep to the future world. Professor Reinhardt and Boswell, the chemist, are the only ones who survive. They find themselves in a strange world, and they can only guess what year it is. The strange beings, though human, strike them as far advanced over their own type, and this leads them to think that they have traveled much more than twenty thousand years into the future. Then, as an after-effect of the sleep-virus, they fall unconscious for a while.

After their complete recovery from their time-voyage, they become fast friends with Monituperal, a historian of the future, and they are shocked to learn that they had been in the state of suspended animation for *two billion years!*—instead of the supposed maximum of a half-million. They are on Mercury, Earth having died ages before, and the sun has waned to almost a cinder. Monituperal tells them part of the Story of Mankind, the rest of which appears in this instalment. As part two closes, we find that the biologist and Boswell had looked at all of the planets in the solar system, through an intricate mechanism, and found them all dead and barren, save Mercury. Sterility, however, is about to spell the doom of humanity, the death of the sun being no serious obstacle to the super-civilization of the End. *Now go on with the story:*

CHAPTER IX

The Pace of Progress

● Boswell lowered himself into his seat. Above him was suspended the queer orb that Monituperal had described as a vision and sound projector. Near him

● We have already learned, during the first two parts of this amazing novel, that the race of man is about to end, not through any fault of its own or any destruction from space, as in most science-fiction stories dealing with this idea, but simply because man had lost the power to reproduce his own kind.

Boswell and the biologist, coming from our own time, which is practically the beginning of civilization, have slept for two billion years to awaken in the future, when man was about to die.

However, the story is not yet ended, and, we have often heard, "Where there's life, there's hope"—though it certainly is a very slim hope in this case.

Very seldom have we come across such a vivid and logical story of the entire existence of mankind in this solar system.

was seated the professor, his kindly brown eyes clear after his long and refreshing sleep. In front of them both was seated Monituperal, grave and thoughtful. They were about to take up the promised Story of Mankind.

Boswell felt exuberant. The "day" before he had been unduly depressed both by the tragic revelation of doom to civilization and the visions of a host of dead worlds. But sleep had softened the distressing reality and he awaited the words of Monituperal with a fierce expectancy. The Story of Mankind, stretching over a period of two billion years, ought assuredly to be profoundly interesting. What accomplishments, achievements, projects, and dreams must have realized themselves in that time, all products of that spark known as Intellect, he thought to himself. He forced to the back of his mind any abnormal thoughts, determined to enjoy to the full what Monituperal would reveal.

Finally Monituperal lifted a finger and came to life from the seeming trance he had been in. After the globe above them

had taken a position between them, the bulbous-headed man spoke.

"Professor Reinhardt and Andrew Boswell, I have promised you a Story of Mankind in the solar system. Later, during your period of education, you will be given a much completer series of data, but at present I will give the skeleton outline of that record. In view of the fact that the period of time covered will be two billion 'years,' it must necessarily be very sketchy and incomplete, a thread rather than the whole cloth. I am telling you this story because it will help your minds to bridge that enormous gap between the present and that remote past from which you have come. It will also immeasurably help you to adjust yourselves to this life of which as yet you have had but the briefest glimpse, for certain definite reasons.

"First of all, let us define civilization. What is your idea of it, Professor Reinhardt?"

The biologist thought a moment. "I would call it the rise of rational life to a state of undisturbable efficiency and independence of Nature."

"And what is your definition, Andrew Boswell?" asked Monituperal.

Boswell thought longer than the biologist had. "Civilization, I would say, is the progress of Intellect against Nature, meaning nature in its broadest sense, including human nature."

Monituperal smiled his half-smile. "You must pardon my asking you questions once in a while, my friends, but it is interesting to us to hear your answers, reflecting as they do the psychology of early Man. You are both right on the face of things and as far as your experience can guide you, but actually Civilization is not a fight between Man and Nature, but alliance. Nature, it is dreadfully true, is powerful and destructive, but it offers more of help than it does of hindrance. Once Man sees the benefits of Nature instead of its potential destructiveness, he can win Nature as a steadfast ally. For every evil there is a cure; it took Man

almost to the present to fully learn that. And now that we know it"

Monituperal shook himself free of a spell of melancholy that suddenly fell upon him.

"That, my friends, was the lesson Man gradually learnt as he lived and thrived. At first it seemed like a battle against Nature. Nature seemed so persistently bent on destroying and breaking-up the works of Man. But Man could not know from the start that with the benefits he could get from Nature for but the asking, he could be forever free of catastrophe. He had to learn that slowly and painfully, point by point, item by item. He grieved when he lost a friend or relation, not realizing that his grief was pointless and unnecessary as long as the race lived on. The individual, in relation to the whole race, counts for little You think differently, Andrew Boswell?"

Boswell started at this bit of mind-reading, for he had actually been doubting within himself.

"In a way, yes," he stammered as Professor Reinhardt looked at him in surprise. But Monituperal was not angry or surprised.

"It's this, Monituperal," continued Boswell more firmly. "The continuation of the race does not carry with it the continuation of the same degree of intellect. Each man born must relearn what his predecessors have learned before him. In this light, the individual, could he live indefinitely, would prove just as capable and advanced as the race, living and dying individual lives beside him."

Monituperal nodded. "Granted, but there has never been found a way to prolong individual life more than a scant five or six hundred of your 'years.' Death to our bodies has staved off the efforts of all Mankind's terrific power in science to increase the life span. It is something removed entirely from the jurisdiction of even Nature. It is in the hands of that Higher Power that rules our lives, however remotely. Only by the continuation of the race has Mankind been able to grow the flower of divine intellect. It

seems a wasteful process, because, as you say, each man must relearn what has gone before and work from there on. But it is the rule of life."

"Where does the intellect go when death claims a man?" asked Boswell.

Monituperal threw up his hands. "That is something our minds can in nowise predict or find out, Andrew Boswell. It is one of the mysteries of life. From the Dawn of Life to its end, Mankind has wondered that over and over. The answer is not of this life's understanding. We are helpless before it."

"Then what can the race accomplish that the individual can't?" asked Boswell curiously. "If the same spiritual problems confront the race at the end as confronted each individual in the beginning, what is the purpose of endless continuation?"

"As I said previously, we today know no more about the purpose of life than the first man at the Dawn of Life. We frankly admit it to be an unsolvable problem. But this is leading us nowhere at present. Let us leave the discussions on philosophy for some future time. My story today has to do with the material and scientific advancement of Mankind since the Dawn of Life.

"As I have suggested before, our actual knowledge of the beginnings of rational life in the solar system is as nothing. But by undeniable facts in certain experiments with the spores of intelligence, we have derived a series of suppositions that must closely approach the truth.

"Sometime in the long ago past—it could not have been far removed from your age—when the earth was ideally suited for life, some of those spores of intelligence settled in its hot and misty atmosphere. Where they came from, what strange peoples of what distant star system made them, how long they drifted in space, we can never know. But they carried that spark of intellect. Within its shell, each bit of frozen protoplasm had that quality that to this day has never been analyzed, isolated, or artificially

duplicated—rational intelligence. It is neither chemical, physical, nor electrical in nature. It is not a ray or beam or corpuscle. It is not matter nor energy. It is something beyond and above all these—something man cannot reproduce.

● "These spores, little as we know of their ultimate nature, we do know to be very fertile if placed in the right sort of living conditions. In experiments performed many times in a variety of ways, we have watched these spores melt off their outer shell which man equipped them with for protection, and burrow themselves into mud, dirt, or almost anything, provided there is warmth, light, and moisture present. But here they die off quickly, just as completely as a full grown man dies, unless they meet with some form of life already there, non-rational life, of course. From the experiments we have deduced the following: they cannot of themselves evolve into a form of life; they die quite easily if it is absent; they require nourishment after the hard shell is off; and the intellect contained in them often remains submerged for periods of time that may be measured in ages. It was found that only upon a peculiar process of actual merging with some primal principle of life would the spark of intellect reappear, but only after ages of evolution. By the use of a multitude of scientific principles, the first experimenters with the spores fused them in a biological sense into a primal cell and then caused that cell to evolve into endless forms of species in comparatively short periods of time. Even then, some of the complete experiments took hundreds of 'years,' being carried on from generation to generation. The most unexplainable thing that came to the experimenters' notice was that the first signs of intelligence always delayed in appearance until suddenly it would appear in one of the long chains of evolved creatures that had originated from the original cell fused with the original spore. Since that time, which was a half million 'years' ago, a set of complicated rules has been worked

out that explains that curious submergence of intelligence in favor of later reappearance. But they are too complicated to even touch upon now.

"Suffice it to say that there have been produced forms of rational life in the laboratories which derived solely from one spore and one cell. They were not left living for very good reasons, as they resembled the human form not in the least. It would have probably marked the downfall of Mankind to have allowed these forms of rational life to live and reproduce along with us.

"So from these facts it became apparent that only under the most favorable of conditions, by the sheerest of chances, would rational life spring up on a world and thrive. It is highly probable that only one of the perhaps countless spores that touched Earth and the other planets in that dim past when the solar system struck a swarm of the spores, is responsible for Mankind existing in the solar system today. In the first place, only earth was ideally conditioned at the time when the spores arrived. In the second place, non-rational life had evolved just to the point where a spore could find its way into one of the primal cells.

"It is a fascinating and at the same time morbid question for us to ask or rather wonder if any of the countless spores we have scattered into space will ever strike the right conditions and evolve into a new civilization. We can never know. Only on some unformed star system or distant nebulae can that happen and it will not take place for a length of time that makes the two billion 'years' we talk about seem like the wink of an eye."

Professor Reinhardt had been sitting up tensely during the preceding description of the biological experiments, clapping and unclapping his hands spasmodically, for it had quickened his innate scientific interest in the science that he had followed so devotedly during his other life. Now he relaxed somewhat, but his eyes were shining eagerly.

Monituperal continued. "So by resemblances, we surmise that rational life

arose on earth through the medium of the evolving forms of life, finally coming to the front only when the species of *genus homo* had appeared. We know very little of the numerous forms of life between the primal cell and man—our earliest records tell us about only a very few—but they were all skipped by that elusive quality of rational intelligence until *genus homo* spread his arms to the heavens above and began to think and wonder. From then on it became a matter of development. No doubt the earlier civilizations were crude and 'barbaric'—as I will find out more fully from you when I read your brains—but the spark, once there, grew and gained power. Along with it grew up the forms of non-rational life that have evolved in turn upon almost every planet and planetary satellite in the solar system and which will evolve eventually on our dying sun when it cools down to the proper point. But only on Earth was there a class of living creatures with divine intellect. Non-rational life lives and reproduces and dies without leaving voluntary trace of its existence; only man has always left premeditated links from the past—which is only one of the great differences between rational and non-rational life.

"Now from supposition we skip to fact. Of the period in which you lived we know absolutely nothing. No records exist telling of your age except vague traditions, and sometimes seemingly fantastic—in our conception—tales. The Man from the Dawn of Life—as he has been called ever since he was found a million 'years' ago—was of an age approximately a hundred thousand 'years' after you. He was our only connecting link to the origin of life, for the first permanent records of Mankind were not made until a million 'years' after that.

"I will sketch briefly what we learned from him. His civilization was hardly more advanced than yours, I presume, at least in the scale with which we measure advancement, but it seems that they had traditions that dated back to the 'Pre-Glacial Period,' as they called it, which

told of ships that visited other planets. Apparently, Mankind, in the latter part of your period, had interplanetary connections, but the secret had been lost after the devastation of the ice age. This ice age not only destroyed a well-advanced civilization, but it sealed like a book the beginnings of Mankind so that they were in the main ignorant of the origin of life except in a vague way.

● "This Man of the Dawn looked very much like you in shape and form and features. He revealed that there were many different 'races' of Mankind on Earth, almost a different race on each of the numerous 'islands' he spoke about. Some were dark, some light; some big, some small; some clever, some dull. They had wars and much disagreement, crime, religion, and perhaps everything you had in just a different degree. It seems that the whole earth at that time was divided by the abundant waters into innumerable islands, none larger than about ten thousand 'square miles.' How does that compare with the earth you knew?"

"Astoundingly different," answered Professor Reinhardt. "In our time there were five large areas of land and only a few islands, easily counted."

Monituperal nodded and went on. "Some of the traditions that they had concerning the age before the ice are very curious and interesting. I have mentioned interplanetary travel. Another dealt with war, and if it is anything like the truth, I am afraid that the earth must have rocked and trembled at times as warlike humans battled each other. Their tradition tells in glowing rhetoric of titanic struggles in which stupendous engines of destruction hurled terrific energies about in a mad attempt of humans to settle their petty differences. The air was said to crackle and flame with lurid electricity and piercing beams and scathing rays and bullet-like ships and a host of other things are mentioned in those tales. How much is truth our informer could not say, but doubtless a good deal of it was based on fact.

"Our attitude today toward the thought of war, which is a thought that comes to us only from aged history, is definitely impersonal. I doubt that one of us living today, excepting you two, can even remotely think of war and see a true picture of it. It has been bred out of our minds and all we feel today is a sort of pity for those early humans who thought of war as a necessity.

"Then many more of their traditions spoke of mysterious and almost divine discoveries that had been irretrievably lost during the ice age when Man had been driven to the equator and barely survived there in small numbers, losing much of his previous knowledge in the primitive struggle to live against unyielding Nature.

"There social life was rather mixed up. There were numerous divisions of society and the lowest class were what he called 'slaves.' He convinced us much against our unbelief to accept the astounding fact, that the 'slaves' were required to serve their masters as mere animals, without privileges of any sort. Perhaps you cannot conceive of the utter foreignness and absurdity that this statement struck in our minds. We can hardly credit that at one time man could treat any of his fellow men in such a vile way . . . but then, neither can we conceive of war or crime. Only our ancient records tell us of the one-time existence of those things that bring up in our hearts a vast pity for early man and a sort of small anger that he should have been so queerly constituted. Then, of course, logical reasoning shows that intellect, with its contemporary growth of mere animalism, must pass through cycles of that kind.

"Well, to get on with the story. They had a religion in those days, a religion that queerly mixed up a creed of 'brotherhood' with a worship of a three-part God. The Man from the Dawn was unable himself to clearly explain his odd conception of a 'three-part God,' but he told us the idea had been their heritage and was supposed to have originated with a man known as Ewalsus Criss, of pre-ice times"

"Jesus Christ!" exclaimed Boswell suddenly.

"What?" queried Monituperal.

"Ewalsus Criss is evidently the corruption of our name for the founder of one of our religions, Jesus Christ," continued Boswell excitedly. "It seems the English language which we speak survived in some small way through that ice-age. Just before you used the word 'slave,' which is a strictly English word."

Boswell and the professor looked at each other in wonder. The earth of a hundred thousand years after them still flourished the Christian Religion and some English and their life was a curious counterpart of the life they had known. Seemingly, the maiden attempts of the twentieth century civilization to abolish and outlaw warfare had failed utterly in their humanitarian aim. The things Monituperal had just told them that he had gotten from the records left by the Man from the Dawn pointed to the depressing fact that thousands of years of advancement after the twentieth century had failed to eliminate human warfare.

"Does the human race advance so slowly?" asked Boswell bitterly, speaking aloud, but more to himself than to the other two. "My fondest dream of the future when I lived my other life was that surely before many more centuries had passed, warfare would be a thing of the past. My one soothing consolation in that life that grated so harshly with its selfishness, greed, petty conceit, and strife was that beyond a doubt, the people of several generations ahead would live a better life, would know more of true happiness. But you tell us, Monituperal, that even a hundred thousand years after our time there was still crime, disagreement, and worst of all, war with all the horrible ruin that science could bring it in that long period of time."

Monituperal shook his head sadly. "My young friend, there is one thing that perhaps you never suspected because of the tiny bit of human history that you could look back to for comparison; that civilization has never gone merely forward—that

it advances, declines, rolls down a steep cliff of degeneration, falls to a slough of despair, then builds up again to reach a peak of little higher than the peak before it. If one would prepare a graph of civilization, it would not be a continuously ascending line, but a see-saw course, swinging up to new peaks as the ages go by, but constantly falling between those peaks to sloughs in which much of the previous efforts are rendered useless. With the long record of civilization that we have today, representing the whole of mankind's history, we are able to see that only too clearly. Each of the peaks of civilization is usually, though not always, just a little higher than the preceding peak; and each of the sloughs is generally, though again not always, a little less deep and dreadful than the preceding slough.

"Just think once, my friends, if civilization were to rise unflatteringly ever upward to higher attainment; why, in two billion 'years' Mankind could be absolute master of the universe. But in actuality, civilization in those many ages has followed a winding path, up and down endlessly, so that the final peak at any one time is not immeasurably above the first peak.

"Even today"—Monituperal's voice sank to a painful whisper—"civilization is on the downward grade of one of those retrogressions that ends in a slough that marks the wasted efforts of hundreds of thousands of 'years' of former achievements. Civilization, the rise of Mankind, reached its greatest peak about one hundred thousand 'years' ago—just before the dread fact became known that Mankind was rapidly becoming a sterile form of life"

Monituperal's face became transformed into that agonizing sorrow that they had seen once before and again a crushing wave of deep sadness, disheartened despair, rolled upon them from all sides. A great people were mourning their doom, and the two men from the past felt their very hearts torn to shreds of aching grief.

"Since then," arose Monituperal's voice

in a low wail, "Mankind has fallen disgracefully, gradually, pressed downward by that stunning, bitter fact of absolute extinction"

CHAPTER X

The Story of Mankind

● Boswell fought against the silence that had become filled with the concentrated sorrow of millions of people who were listening to this Story of Mankind, and spoke.

"How can you say that, Monituperal?" he asked. "Little as we know of your present life, it is obvious to us that you are yet infinitely higher in the scale of advancement than the civilization of our times."

Monituperal opened his eyes which had been closed in the extremity of the emotion he had yielded to; they were once again clear and gravely wise.

"Yes, my friend, civilization is yet far better than that which you knew. Nevertheless, it embodies a distinct retrogression from the great days our race used to know when children were born and taught and when hearts saw only happiness and greatness for the human race. You must see that because of the gradual succession of higher peaks and of less deep sloughs of civilization, the sloughs of these times are vastly higher than the peaks of your times. In plain words, a degeneration amongst us of today could never sink to the depth that marks the heights of civilization even one hundred million 'years' after you. The only effect of our retrogression has been a general rise of dejected indifference, of idle hopelessness. We have suffered degeneration only in that we have ceased to advance. With the gulf of death to our race only a half 'century' away, we have been gripped in icy abandon of encouragement to advance. I have mentioned before that at first the threat of extinction, when it became known, inspired Man to instinctive battle against Nature—whom we thought responsible for the dreadful doom. But all our immense powers of science fell

short of our aim. We realized then that it was not Nature, whom we had always had as an ally, who had ordained the extinction; but that it was the immovable will of the Higher Power, the creator of the universe, which faced us. From then on we knew the truth"

Professor Reinhardt and Boswell looked at each other sadly, expecting the speaker to fall again into one of his moods of crushed, sorrowful silence, but Monituperal suddenly shook himself free of the spell and resumed.

"Forgive me, my friends from the Dawn, for dwelling overlong on that which it is not good to think about too deeply. Perhaps later, when you know more about our life, you too will grieve that civilization must know an end. At the same time you will be taught our philosophy of consolation—that there is a grand purpose behind the doom that presses us to the abyss of extinction. But now let us get along with the Story of Mankind.

"Obviously, then, with what we learned from that Man of the Dawn, civilization reached its first peak some thousands of 'centuries' after your age. The only achievement, however, seems to have been the first interplanetary contacts. War they still had and with war they must have had infinite suffering, quarreling, and race hatred. Then Nature took a hand, covered the world with ice more or less completely and crashed to the dust a hundred thousand 'years' of human effort. The new civilization that arose began from the slough that followed the first peak, advanced in much the same lines that your civilization did, apparently, even retaining certain of your customs, faults, and traditions.

"Now we make a skip that will seem enormous to you, but which in the light of present-day history is but a step in time. We skip to the earth of about a million 'years' after your time. Quite a time ago—over one hundred thousand 'years' to be exact—there was found a square metallic tomb on earth which revealed upon opening twelve men in suspended

animation. They were of this next period I will speak about, a million 'years' ahead of your 'twentieth century.' Now let me ask you, my friends from the Dawn, what you think the world of that time was like as it was revealed to us by these time-travelers?"

"Why, I can only venture a guess," answered Professor Rienhardt at a sign from Boswell for him to reply. "I would expect them to be greatly advanced over us; not very different physically, but a great deal intellectually. I would say that war had been eliminated, that all peoples were united under one rule, that there was mass education, that the spirit of brotherhood prevailed, that a good deal of sickness and insanity had been done away with, that there would be machines to do most of the work, and that they would have interplanetary connections."

"Have you anything to add, Andrew Boswell?" asked Monituperal.

"Only that I should expect them still swayed by a mass of tradition from the previous ages," answered Boswell wisely. "So much that perhaps their life was not much happier or easier than ours, mentally."

"That was a good shot, Andrew Boswell," said Monituperal. "Man's mind—aside from his pure intellect—has always been powerfully swayed by the memories and traditions of the past. How many times has it proven sadly true that maternal and scientific advancement are unable to bring the same degree of enlightenment to the mind as they do to the practical side of human life. As we of this age can well testify, the average mind of the masses is the most sluggish force known. Advancement in civilization for long ages was always a result of the activity of a few great minds—the mass of people always lagged not only 'centuries' but even hundreds of 'centuries' behind. They partook of the new things, boasted of their progress to each other, yet left their minds staggering with loads of tradition and clinging to the past. One of the lessons Mankind had to painfully learn was to forget the past and look to

the glorious future. And because of Man's inherent clinging to the past, his mental outlook was always far behind the trend of the times. Each succeeding peak of civilization said, 'Behold, we have reached the top; we are the acme of civilization,' despite the past examples of history and despite the imagination of the few gifted ones who saw the truth in a way. Mass psychology, my friends, is a thing by itself; it is a powerful force that does as much to ruin civilization as to build it up. It is sometimes known under the term 'human nature' and its greatest defect is immovability. Under the barrier of 'plenty' and 'prosperity,' this human nature becomes a devastating and almost immovable force. One might put it this way: that the bulk of humanity does not reach to things higher, but is pushed upward by the earnest efforts of the few gifted individuals.

"It simply bears out the complicated laws of recurrent intelligence. You remember how it was that in those experiments with the spores of intelligence, that intellect lay sleeping in all the forms of life till the *genus homo* came along. There it flashed into life. Likewise, amongst Mankind the type of intellect that looks to the future and advances civilization recurs only at definite intervals in certain individuals. Consequently, history abounds in names, the names of those who most figured in each successive age in turn. Sometimes, all too frequently, the names are not of individuals who advanced civilization, but of individuals who led the way a step or more backward. Even your little history that lay back of your age must have had closely allied steps, both forward and backward. Is it not so?"

- Both the professor and Boswell nodded and Monituperal continued.

"So, now that I have prepared you somewhat for the shock of what you will hear about the earth of a million 'years' after you, I will tell you what those twelve men revealed. I have tried to show you some of the complications that beset

humanity in its rise toward things higher so that you would realize in a vague way how slow is this process of advancement—probably much slower than what you in your minds have imagined—and how much the traditions and heritages of the past affect Mankind.

"The world of ten thousand 'centuries' after your time, my friends, still had war!—still had much unhappiness and petty quarreling!—still had many creeds, religions, and opinions! True, it had many new things that your peoples never dreamed of—a flowering science, interplanetary contacts, and general well-being. But it had not yet uprooted those hard-to-kill remnants of their sizable past. In other words, it was your civilization all over again with a few new touches here and there!"

Professor Reinhardt and Boswell looked at each other in mute surprise. The latter had been disappointed some time before to hear that the world of one thousand centuries after the twentieth had been so little advanced. Now he hardly knew what to think that a million years afterward had produced so little actual progress. Slowly and dimly, the two men from the Dawn began to perceive what Monituperal had taken pains to suggest—that human progress had really been astonishingly slow. But as Boswell thought it over while Monituperal patiently waited for them to readjust their conceptions, he remembered that it had taken Man some two hundred thousand years from his first appearance on Earth to even discover the secret of fire. In the light of that fact was it so strange that civilization should progress so haltingly?—he thought.

Monituperal started speaking again. "Now, my friends, we will go ahead with the Story of Mankind. Bear in mind from this one example how little advancement comes about in such lengths of time as a million 'years.' From now on I will treat the story as a gradual rise, instead of a continuous rise and fall as it should be. I will touch only the peaks of civilization; the sloughs will have to be under-

stood. Remember that there are several factors that contribute to the back-sliding: upheavals of Nature, the inertia of human nature, periods of prosperity, and the periodic weakening of intellectuality.

"When men first explored the other planets and satellites and asteroids, they found none of them suitable for permanent habitation. Mars was already dry and thin-aired; Mercury was even worse; Venus was still too hot and humid; and the other major planets and their moon were totally out of the question. So Earth remained for five hundred million 'years' the one and only home of Mankind. The other heavenly bodies in the solar system were used merely to yield valuable materials and to become outposts of various kinds. Man was king of the solar system and Earth was his home. The peaks of civilization steadily advanced until after five hundred million 'years,' there was little to be wished for. There was great abundance and plenty and happiness, but enough problems to keep things that way to sharpen their minds and prevent the decay of wealth. In that time, Earth periodically burst out in violent eruptions and upheavals. Disastrous though these were, and much as civilization was shaken to its very foundations, Mankind was able to survive them with the minimum of calamity.

"But this was still the Era of the Dawn. The species of man had changed very little. He had simply expanded and broadened his life. He was still essentially a warlike creature, although wars—they were really revolutions because of the unity of government—were very short and very infrequent. He still had much to learn and much to adjust. Civilization was still imperfect.

"Then comes the Era of Change as it is called in our history. After those five hundred million 'years,' Venus became ideally suited for human life. She was about the same size as Earth, thus exerting a similar force of gravity, had a now thinner and less humid atmosphere, and flourished a new world of non-rational life. In a vast, but regulated, horde,

humans swarmed to the new home and began the new life on Venus. But similar as Venus' conditions were to those of Earth, yet there was enough difference to gradually bring over a change on those humans who dwelt there. In the course of a few hundreds of thousands of 'years,' the Venus-born people changed into a new species of human being. And that's where the trouble began.

"The new species, with the vast intellectual background that was its inheritance from Earth, evolved into humans much more uniform and on a higher plane of average intelligence than the old species of Earth. Now perhaps you can guess at some of the catastrophes that occurred. Being a different species, they could not inter-marry with the Earth-people. Being of a higher average intelligence and a quite uniform race, they advanced more rapidly than the old species and speedily acquired the lead in inter-world affairs. Earth-people began to resent these things and the resentment grew because of the striking difference in physical form that gradually became apparent. The Venus-people had larger brain-cases and smaller bodies.

"Finally the accumulation of 'centuries' of widening differences and methods between the two species broke out into war. So you see, my friends, that war was not so easily downed in human affairs as you would think by the use of logical reasoning.

"This war we will say nothing about, except that it lasted for two 'centuries' and ended with complete victory for the new species, the Venus-people. Of the horribleness of it, of the devastating weapons that science was made to produce, of the terrific energies that were hurled from space-ship to space-ship and even from world to world, I will waste not a word in description, although it is all down in our records for your future observance.

"After the victory of the Venus-people, the old species of Earth gradually died out, as century after century they arose against the victors and even against each

other with the age-old war lust in their veins, and were annihilated.

● "So it was, my friends from the Dawn, that the species of *genus homo* to which you belong vanished completely over a billion 'years' ago. And yet you must not let that distress you, for after all, the new species came from the old; you have a right to be proud that from the graveyard of your species came the new race, a new man, more fit in many ways to carry on the work and progress of Mankind.

"From thence on Mankind came into a new heritage. The new species was so radically different, in certain ways, from the old, that civilization leaped ahead with gigantic steps. Yet, from that you must not infer that there were no further retrogressions. There were sloughs and peaks just as before, but they came less frequently—the sloughs were further apart and shallower. I could spend 'years' telling you the differences that marked the new era from the old, but I will instead only outline a few outstanding things. To begin: the new race began a series of records that survive to this day. Where much of the detailed history of the first era is guesswork and deduction, from now on I am quoting from indelible metallic records. Then, the new race founded its civilization on the great creed of universal brotherhood and abolished war once and for all. That, of course, was after the last Earth-people species disappeared. The finer things of life, all of which originate in the mind, were lifted into the light. Art, expressed in a multitude of ways, grew to be one of the main factors of the new civilization. Individual expression and community spirit grew side by side to the everlasting glory of Mankind. Much that exists today in our lives originated in those times.

"That Era of Change is sometimes known as the Era of Happiness, for truly Mankind must then have been happy. The new species naturally overran Earth after the old species was gone, and side by side the two worlds flourished through the

ages. I mentioned once before that a billion 'years' ago the population was a half-trillion people, equally divided between Earth and Venus. That was at the height of that era. Look"

With a suddenness that startled the two interested listeners, the room darkened and on the wall appeared an image. For several minutes the professor and Boswell could make out nothing that could be interpreted by their minds. Then gradually they began to dimly understand the scene. It was an aerial view of a metropolis. Ten-mile-high buildings spread all over the landscape for what seemed thousands of square miles, all interlaced with a multitude of bridges and suspensions. In the air darted a myriad of craft of all sorts, all seemingly on the point of collision, yet none colliding.

"Behold," said Monituperal. "One of the centers of population on Earth a billion 'years' ago. Notice the sun, how dull it is—not the burnt-out cinder it is now, but nevertheless rapidly declining in brilliancy from the sun of the Dawn of Civilization. See those ships; they ply the trade between the two great worlds, Earth and Venus, and also between every body of the solar system. There was adventure in those days, new regions to explore, new creatures to observe and record on the different remote heavenly bodies, the constant danger of space-travel with its numerous flying rocks, and then the extreme complexity of social life, which was a fascinating adventure in itself. Look at the beautiful architecture, how skilfully expressive—look now as I change the scene to the machine room underground. See the legion of robots and wheels that give Man leisure to develop his artistic and intellectual life. Now we approach a man of that time—look at his peaceful expression, his small but well-formed body, his bulging cranium. Now let us look at the countryside—see the beautiful flowered canals and rivers, the broad expanses of a riot of rainbow colored flowers, of smooth greensward and blue grasses, the shady forests with sweet caroling birds"

Monituperal ceased speaking as the room became filled with the noises of that world of long ago. Every note of the birds they passed (the image constantly moved) was recorded. As they passed over more gorgeous flower beds, their faint intoxicating perfume filled the room. For the next few hours, Monituperal led his listeners via the almost magic powers at his command through the duo-world of a billion 'years' before. As disembodied spirits might roam over forgotten places, they wove in and out of that fairyland of Man-kind, seeing, hearing, and smelling to the extent that when the lights flashed on and the marvelous scene vanished, they rubbed their eyes in bewilderment, as though they had forgotten where they were.

"That, my friends, was civilization of the halfway mark. I somewhat dislike going on, because of the enormous change that it will be my lot to relate. Undoubtedly that was the peak of human happiness. From then on there is no improvement in any except intellectual lines.

"It was not more than five million 'years' after this that the greatest calamity of all time occurred. Perhaps the doom that hovers over humanity now is the only thing comparable to it in magnitude and awfulness."

Professor Reinhardt and Boswell looked at each other in growing wonder. They had so thoroughly enjoyed the long spiritual jaunt into the past, and become so immersed in its sublimeness and beauty, that Monituperal's words struck a cold chill in their hearts as if the doom he hinted at were to affect them. Then they looked at their tutor again.

Monituperal resumed, but his voice was filled with a heaviness of the distaste he admitted would flavor his further speech.

CHAPTER XI

The Last Man

● "It is sad to relate what follows, my friends from the Dawn, but go on I must, for the story is but half-told.

"In those billion 'years' that mankind had struggled to those peaks of the duo-

world millenium, keen and potentially dangerous changes had been going on inside the worlds. Their hot cores had cooled, resulting in the upheavals that had so tormented past civilization, but for a long period the disturbances had been mild and easily allowed for.

"Then dormant Nature, almost as if answering a challenge from Mankind that had all but conquered her, arose in her terrific might and in a series of titanic efforts, laid civilization low. Both Earth and Venus, just a few 'centuries' apart, convulsed in the first throes of impending death, brought on by the cooling of their cores and the simultaneous cooling down of the sun. The next era of five hundred million 'years,' the Era of Reconstruction, is a continuous round of building up and casting down. Whatever Mankind built, Nature ruined. In desperation, a new home for humanity was sought, but never found. All the planets and satellites were either too small, too impossibly different, or undergoing similar disturbances. Even the stars were searched, those within reach of the space vehicles, but the worlds of those stars were totally alien and quite unfit for human life. So Mankind was forced to get along as best he could and gradually, as the ages passed, the two worlds quieted down.

"But then they also began to get very cold, and the air seeped into space and the waters disappeared with the air. Plant and animal life died altogether and only man in sealed cities, breathing artificial air, survived. For a long time Mars became the center of civilization because it had suffered much less of the cataclysms of internal origin. There amongst the numerous ancient water conduits built by a race of creatures that must have sometime in the dim past, before even Mankind was born, tried to colonize the solar system and had failed, or been destroyed in some mysterious way, sprang up the metal walls of the new sealed habitations. But there is inborn in humanity a certain love of sunlight, that makes him strangely troubled without it. Mars was aban-

doned and again Earth and Venus sheltered the bulk of humanity. But no longer were they transformed into one continuous garden of flowers and birds and tame creatures from a score of worlds. There was little air, no water to speak of, and not enough sunlight to nourish life outside the walled-in cities. Mankind became content to do without those things and made his stand against Nature.

"Five hundred million 'years' ago Mankind again evolved into a new species. It was a gradual and natural change. The long ages of indoor seclusion and inactivity physically, and the renewed mental vigor that replaced much of the unrestorable art, slowly changed him into the present species of which I and my fellows are members. Our limbs shrunk to their present state and our heads made room for more brain. There was no combination of the old and new species as there had been during the first mutation, because here the whole race changed as one. The change of species marks the beginning of the last era, the Era of the Dying Worlds as it is called, because during this era, all the planets from the largest down cooled to their final heatless, immobile state. All the nearer planets moved closer to the sun as if to get as much of his declining heat as possible, and ceased rotating independently of their revolution. Then they froze over with the cold of space, dabbed here and there with the frozen water that had remained in tiny amounts.

"But these devastating blows to civilization were not without beneficial results also. Mankind had much more time to think and reason in the comparatively quiet life of the sealed habitations. He began to see many things that had been hidden before in the bustle of a busy world. There was born the present-day concepts of peaceful life, wherein each individual would be like a sovereign king, and yet in total harmony with his fellow men. In fact, as man began to look back and seriously study the records of the three great eras before, he perceived many imperfections that he now had both

the opportunity and desire to better. Gradually a new era unfolded, marking a new phase of civilization, the Age of Enlightenment. Mankind at last found himself.

"Fifty million 'years' ago, Mankind deserted his birthplace and age-long home and moved *en masse* to Mercury, partly for the comfort of the stronger rays of the dying sun that Mercury received, and partly because this planet is most suitable in certain ways for our underground habitation. Here civilization again touched new peaks of advancement and a great peace of mind and comfort stole over everybody. The evolution of the new species had brought even more uniformity and individual equality than had the first mutation, so that what was now ordained and meted out for one could unreservedly be likewise given to all. Mankind had ceased to be a combination of different beings and had become one true harmonious whole.

"A half-million 'years' ago came the perfection of the spore manufacturing process. From then on all female life-cells that were not needed by us for the continuation of the race, went to make these spores and we began to seed them through the universe. They were packed in metallic shells and shot at the speed of light away from the solar system. In a certain number of 'years,' a timed bursting charge would open the shell and liberate the spores to speed freely through space to land we know not where.

"All things considered, in perhaps another billion 'years,' humanity would have become masters of the universe, or something akin to it. But . . . as you know, as I have already related, a mere hundred thousand 'years' ago came a voice from heaven saying that it was the end . . . " Monituperal lifted eyes with the infinite weariness of great wisdom in them and finished: "That, my friends, is the Story of Mankind. You are from the Dawn of Life and I . . . I am from the End of Life . . . "

There was a long silence, filled with the silent wailing of a doomed people. But

the professor and Boswell were no longer mere dazed spectators. The Story of Mankind had bridged the gap of ages in their minds. They felt the doom now as keenly as Monituperal. After all, these people amongst whom some queer fate had dropped them were their descendants, many times removed, but unquestionably of their original stock. The extinction of these people, their posterity, meant the ending of everything they had lived for. It was bitter, thought Boswell; but when he looked at Monituperal he noticed that his sorrow was mixed with patient resignation. He must remember that philosophy which attributed a purpose to the clipping short of a great civilization.

"That will be all for now," said Monituperal after a time. "After your next sleeping period we will extract from your brains the items of information we are curious about. Soon after that we will perform operations to increase your lifespan, make you independent of gravitation, and certain other similar things. Come, take my hands. We will return to your bedroom."

● Andrew Boswell looked long and sorrowfully at the figure reclining at full length on its death-bed. The face which seemed so small in comparison with the bulbous skull was molded in a peaceful, happy expression. The deep-set eyes were closed in their last sleep.

"The last man!" said Boswell in a low whisper that echoed strangely in the quiet room. "His death leaves me . . . the last man!"

With a sudden gesture of resignation, Boswell straightened up from his kneeling position beside the bed where he had listened to the last words of the dying man. Those last words had shaken his mind mightily—"I go, Andrew Boswell, Man from the Dawn. You must carry on, for you are the last man!"

For long minutes Boswell stood there, his mind digesting the awesome fact that he was truly the last of humanity. His bent and weak body, carrying the load of five centuries and more of life, rested but

lightly on the soft carpet. His failing legs had long ago lost all but a vestige of muscular power. He depended on the miraculous "stomach" machine, with its absolute control of gravitation, to keep him from falling to the floor from the weakness of extreme old age.

His face too was profoundly changed. Wrinkled and yellowed it was, lined with senility and wisdom. It held also the background of brooding sorrow that had become his lot in common with his fellow men.

Five centuries of learning and thinking had embedded themselves in his capable brain, the vast lore of this civilization which had watched a dying sun and seen in that a symbol of its own death. In those long years, Boswell had seen opened before his eyes the wonders, the sublime advancements, of a mighty people. He could remember yet with what amazed bewilderment he and his companion from the past, Professor Reinhardt, had regarded each new thing they had seen and observed as their "education" went on apace. Endlessly, it had gone on, every hour of their life, instilled into their minds from a tiny instrument which fitted in one ear, not by sound, but by direct contact with the brain. They had lived the identical life of any of the people around them, eating no solid food, sleeping not at all, and cramming each moment with the new life. They had seen some of the grand drama, witnessed the waving "color symphonies" which acted on the brain like a stimulating drug, listened to the heart-rending, celestial-sweet music, and engaged in mind-probing discussions of philosophy which gave such free play to imagination.

But all this while, quiet as things were, the population had been dying off steadily, un replenished by new births. Two centuries before, Boswell and Professor Reinhardt had bowed their heads with an aching in their hearts as Monituperal, their constant guide and companion in the new world, had closed his eyes in death. A century later, the biologist who had perfected the virus of suspended animation that had brought them from

the Dawn to the Dusk, gasped out his life painlessly. Many times after that Boswell could still feel that last touch of his trembling hand as he whispered a "farewell." Boswell had not wept, nor cast himself down in grief. The philosophy they had learned showed that as no true indication of feeling. But he had felt a soft pain in his heart from thence on whenever he thought of his deceased friend and companion and fellow time-traveler.

From then on the people had died off rapidly, seemingly without any desire to live. The bodies were methodically disintegrated into atoms and scattered into the void outside.

Boswell took a final look at the man before him. Together these two had lived in a dead city, empty of other life, for five years. It had been a question which would survive the longest, which would close the book entitled "Mankind," but now it was over. Boswell was the last man.

As the deathlike silence smote him like a living force, Boswell knew that his hours, too, were numbered. Something inside him warned him that death was close. He must leave this place, must see Earth once more before the end.

In a flash, utilizing the powers of his "stomach" machine, he passed through the city, wall after wall glowing red before him as he passed them. In a gigantic chamber he stopped and floated easily toward one of the space vehicles about him. Into this he wafted himself and fitted his wizened body into the compartment built for it. By the power of thought, he caused the small ship to rise from the floor and dash through the open roof to the airlocks of the city.

Soon he was out in space, shooting like a bullet to Earth, ten times faster than light. Through the transparent hull he could see Earth, a dull globe in the black void, reflecting the feeble rays of the sun.

Then he looked back to Mercury, the last home of Mankind. It glittered like a precious jewel amongst the quiet stars. But he turned his eyes again to Earth, the birthplace of Mankind. In the gloom that

surrounded it shone a gleaming spot. Larger it grew, and larger, till it took form. It was the monument to civilization.

The ship landed on top the flat surface of the titanic monument, a mass of pure, indestructible diamond. Carven into its sides were pictorial representations of the civilizations of the solar system throughout the æons. Captured in the immense object, the rays of the sun broke from their prison finally in a blaze of blinding glory. It was a beautiful sight. It would remain there forever as the sole memento of a great people.

• Boswell suspended around his waist a metallic belt set with little mechanisms and left the vehicle. He did not die from the cold or the vacuum. The belt was a perfect protection by reason of its properties of maintaining an aired and warmed space all about the wearer, bound in by an invisible wall of energy. He floated majestically along the top surface to one side where a stone colossus, similar to the one he had seen on Venus, reared its huge

bulk. He halted and looked about him with dimming eyes, for death was near.

"It is the end," he murmured. "Here on this planet was born Mankind, the receiver of divine Intellect, and here on this planet dies . . . the Last Man!"

He raised his eyes to the heavens above him and stretched out his arms with the last of his fast-ebbing strength.

"The Higher Power has ordained all this—what was the purpose behind it all? First life, then death. From a beginning to an end. Can Man ever know the reason?"

With these words the Last Man slowly collapsed and resigned himself to death. But just before the spark of life fled to its destiny, there came a flash from the void—a blinding flash that contained the whisper of an answer.

It flowed over the diamond monument and outlined for a brief moment the falling figure in glorious enlightenment.

The Last Man died . . . was there a smile of celestial understanding on his lips?

THE END

WHAT IS YOUR SCIENCE KNOWLEDGE?

Test Yourself by This Questionnaire

1. Give the approximate distances of the Moon, Mars, and Jupiter. (See Page 903)
2. Which star is nearest our solar system? (See Page 903)
3. Where is the mountain named Popocatepetl? (See Page 906)
4. Describe a tropical dawn. (See Page 909)
5. What city is at the delta of the Franciscus River? (See Page 921)
6. Name the capital city of Yucatan. (See Page 922)
7. Is it possible that intelligent creatures existed on the earth before man? (See Page 935)
8. Tell of some instances in history when huge snakes have been seen. (See Page 943)
9. Give four dates during the nineteenth century when sea-serpents were supposedly observed. (See Page 942)
10. Of what value are the "genes" during the process of reproduction? (See Page 959)
11. Compare genes with atoms, in their respective sciences. (See Page 961)
12. Describe the main function of the genes. (See Page 961)
13. What is a "gamete"? (See Page 961)
14. What are "chromosomes"? (See Page 961)
15. What did Muller of the University of Texas discover in relation to genes? (See Page 966)
16. What is the name of our sun? (See Page 971)
17. In what part of the body is the pituitary gland located? (See Page 971)
18. In which science is the word "Sagittarius" a familiar one? (See Page 971)
19. What is elastic cloth and where is it being experimented with? (See Page 975)
20. What kind of a gland is the pituitary and about how large is it? (See Page 976)
21. Give a definition of the word "civilization." (See Page 980)
22. What is the scientific name of the creature called "man"? (See Page 982)
23. In what period of man's development was the secret of fire discovered? (See Page 986)
24. What is a wavelength? (See Page 995)
25. What gases are used in "neon" signs besides neon? (See Page 996)

ONE-WAY TUNNEL

By David H. Keller, M.D.

(Continued from page 953)

York and when I found that the killers were congregating there, I sailed over and lit the fuse. Had a narrow escape, too, but I went up in the air higher than the winged boys could follow me and made my getaway. Well, the stuff blew a hole in the dome big enough to send a zeppelin through and you had ought to see those hungry killers swarm in. I bet by this time there are mighty few New Yorkers alive. So now that that little job is done and the Brainless Wonder's dead, as I understand he is, I guess it will be fine to be in Boston as a real king. Want to go back there with me, Lizzie? My body does look like hell, but I have a beautiful face."

"I want to tell you something, Mr. Garland," interrupted Paul Long quietly. "First the lady you are speaking to happens to be my wife. When you speak of her or to her, please remember that. Now in regard to your being king of Boston. I guess you are. At least no one else wants the honor, for all of the Bostonians are dead. We have just gassed them through this ventilation tube. I am sorry that you were not there to die with them. I am also sorry that our friends in New York are all dead. All human beings have to die when they cease to defend themselves. All life is a struggle and the only way to win a war is to attack. The error I made when I advised the Cities of Glass was that I forgot this matter of attack and recommended a simple defensive. The zest disappeared from life. We forgot to fight,

and now, except for the few of us here, the human race is wiped out. We came into the wilderness deliberately so that we could fight; many of us have been preparing to destroy wild animals; we know that we have to do this or have them destroy us—and so—"

And without further preamble, the biologist raised an automatic revolver and killed the Beautiful Spider. The monstrosity fell and the leader of the exiles walked over to the dead body.

"Right between the eyes," he cried proudly. "Not so bad for an old man." He turned to the colonists of a new world and a new life.

"And now, my friends, let us begin our adventure. Our plans are made and the future will determine the wisdom of them. But at least we will be happy, because from now on, we will have something to live for and will have to fight tooth and toe-nail for the right to keep on living."

His wife came near him and caught his hand.

"You are not such an old man," she cried. "You have the secret of perpetual youth. How have you accomplished it?"

"By the constant overcoming of new difficulties," he replied.

Some minutes later, the survivors of what were once the Lords of the Earth sailed slowly into the western skies. They were more than Lords now; they were Gods and Goddesses of Destiny.

THE END

**NOW
ONLY**

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Science Questions and Answers



THIS department is conducted for the benefit of readers who have pertinent queries on modern scientific facts. As space is limited, we cannot undertake to answer more than three questions for each letter. The flood of correspondence received makes it impractical, also, to print answers as soon as we receive questions. However, questions of general interest will receive careful attention.

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Approaching Planets

Editor, SCIENCE QUESTIONS AND ANSWERS:

Having sought in vain for a reasonable answer, I am writing to you in the hope that you will be able to give me a solution to the following problem.

It has been definitely established that the world and its companion planets are round, but the curve of the earth's surface is so gradual that it appears flat.

So far so good. But let us suppose that a planet was attracted to this world, and it stopped about twenty feet above the surface.

Now the following points trouble me.

(1) Would the people on the other planet, supposing it to have inhabitants, be upside down to us?

(2) Would it be possible, without suckers like a fly, to cross from one planet to the other?

(3) If the force of gravity on each planet were equal would the inhabitants be able to move about?

I have had divers explanations, some being that the surface of each world would be revolving so fast that each planet would see no details of the other. Other people say the whole idea is impossible and leave it at that.

Perhaps you will be able to help me.

GEOFFREY WILKS,
London, England.

(Those people who said that the whole idea is impossible were nearest right, but they did not have to stop at that. A planet could not approach the earth and stop at twenty feet from its surface any easier than you could slide down the side of a rainbow. The laws of nature would not permit it. If they came close enough [within thousands of miles], they would speed toward each other at increasing speed and crash, probably destroying both. There is not the slightest possibility that they would stop when only twenty feet from each other. It is like jumping off the Empire State Building, falling faster and faster as you near the ground thousands of feet below, and then stopping before you hit, to remain suspended above the earth.

So you see there is not the slightest chance of it happening.

However, if there was any force that held the planets twenty feet apart, the people of each world would not seem upside down to each other, because they would not be able to walk upon the surface of one of them. The gravity that holds people to the surface would be counteracted by the gravity of that planet which was the largest, and everything loose would fall to one world. If the gravity of both were exactly the same, objects would be suspended between them.—EDITOR.)

Wavelengths and Colors

Editor, SCIENCE QUESTIONS AND ANSWERS:

I am an ardent reader of your department and am deeply interested in science. I am very puzzled about several matters and decided to send them to your department. If you will answer my queries, I will be forever indebted to you.

(1) What is meant by the term wavelength and why are some wavelengths several miles long and some are shorter than a centimeter in length?

(2) Why do different colors have different wavelengths and what causes these wavelengths?

(3) Do different elements throw off a different color and if so why? Also how are scientists able by the bright line spectrum to determine what distant stars are composed of?

PAUL E. GROGGER,
Ordan, Utah.

(1. A wavelength is the distance between the same point on two consecutive waves, including the waves in the ocean—the same can be said for those of light, sound, heat, radio, X-rays, etc. The length of a wave depends upon the oscillation of the body emitting it as well as the velocity of the wave.

2. Every color has a different wavelength—violet being the longest and red being the shortest. If they

all had one wavelength, they would all be one color. The color of an object indicates those wavelengths which the object does not absorb—if the reflected waves are very long, they will affect the human eye as blue or violet, and if they are short, they may appear as deep orange or red. Objects that absorb all wavelengths appear black, and those that reflect all are white to our eyes. In other words, black is the absence of color and white a combination of all, paradoxical as it seems.

3. The above explains why elements throw off different colors—depending on the internal arrangement of their atoms. Scientists know that certain elements emit certain colors and therefore know what distant stars are composed of, by studying their spectrums.—EDITOR.)

Neon Signs

Editor, SCIENCE QUESTIONS AND ANSWERS:

Some more questions for the "Science Questions and Answers."

Are neon signs entirely of neon gas? Or is xenon gas used for blue? What is vaporized mercury used for? Are colored tubes used for different shades of color? Are there any other gases used for colors in neon signs?

DAVID A. KYLS,
Monticello, N. Y.

(So-called "neon" signs are not always filled with neon. Pure neon gives off a red light when activated, but all signs of the neon type are called "neon signs" because the first ones, and many of this nature used today, contain only neon. Vaporized mercury, as well as helium and other inert gases, is used to produce green, blue, yellow, etc., alone or mixed with the neon. Colored tubes are not used in neon signs.—EDITOR.)



The Pressure of Light

Editor, SCIENCE QUESTIONS AND ANSWERS:

Here are a couple for your SCIENCE QUESTIONS AND ANSWERS department. One question appearing recently in these columns asked you to explain why the moon looks large and red when near the horizon. You explained why it was red—that was easy. But you said nothing of why it appears large and flattened. Would you please explain that for me?

Question Number Two: Could you give me some definite proof that a beam of light exerts pressure?

ROBERT L. BARNES,
Williston, N. D.

(When the moon is near the horizon, its rays are bent by the atmosphere somewhat in the manner of a magnifying glass and this makes it appear much larger than when it is overhead.)

We could not give you any definite proof that light exerts pressure, though it is a logical conclusion and we believe will be proved some day, though it hasn't been as yet. Some people believe that the radiometer is put into motion by the light from the sun, but it is really the heat that makes it move. The radiometer is an instrument often seen in the windows of jewelers and opticians consisting of a vane in an air-tight bulb. Each projection of the vane is made of a flat piece of material, black on one side and white on the other. The black absorbing the heat and the white reflecting it forces the vane around.

Light consists of "photons" which, if matter, certainly exerts pressure, though it cannot be compared to that of the lightest gases.—EDITOR.)

The Law of Inverse Squares

Editor, SCIENCE QUESTIONS AND ANSWERS:

Please give an example using the law of inverse squares.

JACK SPANN,
Comanche, Okla.

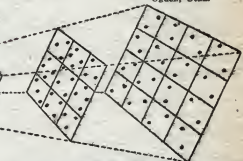
(The law of inverse squares states that anything radiated uniformly from a focal point will expand at a certain ratio. In other words, say a ray of light from a flashlight will cover one square at a distance of one foot. At two feet, the ray will cover four squares; at three feet, nine; at four feet, sixteen; at five feet, twenty-five, and so forth. When the light that formerly covered one square at one foot distant now covers four squares at two feet distant, each of the four squares, though the same size as the first one, receives one-fourth of the light that shone on the first one. Thus, there is just as much light on the four as on the one, but it is more diffused, relative to the distance. You will find a sketch on this page illustrating this principle, showing the discharge from a shotgun and the spreading of the shot according to the law of inverse squares.—EDITOR.)

Radium Rays and Colors

Editor, SCIENCE QUESTIONS AND ANSWERS:

Two questions have annoyed me for a long time. What are the Alpha, Beta, and Gamma Rays? What do they come from and why? Also to what use are they put? The other question will be hard to answer. I think. Why does paint stay red, green, blue, orange, or other colors?

LEONA CRACCHET,
Ordan, Utah.



(Alpha, Beta, and Gamma rays are produced in their greatest quantities from radium. They are the particles emitted from this element and are its radiations. They have been used in attempts to create atomic energy by bombarding atoms of other elements. Alpha, Beta, and Gamma are the Greek letters A, B, and G. When these radiations cease, the radium has become lead.)

Colored paints retain their colors because they absorb all the wavelengths of light except red, green, blue, or whatever color the particular paint may be. The wavelength that is reflected is caught by the eye and registered as a color. Colors of contrast, such as red and green, are of very different wavelengths, and colors that are almost alike, such as deep yellow and light orange, have wavelengths nearly the same.—EDITOR.)

Venus

Editor, SCIENCE QUESTIONS AND ANSWERS:

Would you please tell me how many moons has Venus?

CLARK WERNANSON,
New York City, N. Y.

(Astronomers have found that Venus does not have any moons. There may be a few rocky satellites circling the planet, too small to be seen with a telescope, but there are none of any importance.—EDITOR.)



The SCIENCE FICTION LEAGUE

—a department conducted for members of the international SCIENCE FICTION LEAGUE in the interest of science-fiction and its promotion. We urge members to contribute any item of interest that they believe will be of value to the organization.

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THE first thing we want to do this month is thank Jack Shaller of Erie, Pennsylvania, for interesting many of his friends in science-fiction enough for them to want to join the SCIENCE FICTION LEAGUE. Mr. Shaller has also offered to form the ERIE SCIENCE FICTION LEAGUE Chapter, which should soon be under way. Thank you, Mr. Shaller—you are another example of the real science-fiction fan, and we are discovering more like you every day. You have shown real co-operation, which is the keynote to progress in any organization. This makes Jack Shaller an ACE MEMBER. This special gratitude is also extended to several other members who have interested others in the LEAGUE.

NOTICE TO DIRECTORS

We want to call to the attention of volunteer Chapter directors the fact that it does not take a great many members to form a local Chapter. Because we believe that it is relatively easy to secure new members after the Chapter is formed, we will authorize a Chapter with only three members to start. If you are a Director and only a few have written to you, offering to join your Chapter, send us the list now and we will declare the existence of your Chapter, or you can secure a list of members in your locality from Headquarters, and solicit each one, either by mail or personal call. This will eventually bind together all the lovers of science-fiction in your neighborhood into one group. Why work alone? Get together! Remember, three members are enough to start a Chapter, and you will find it much easier to secure new members after the Chapter is organized.

SCIENCE FICTION DEGREES

Working upon the original suggestion of Alvin Earl Perry, an Ace Member of the LEAGUE, we have prepared a test to be taken by members who wish scientification degrees. The test follows this announcement. Here are the distinctions available for members of the SCIENCE FICTION LEAGUE.

ACE MEMBER—one who accomplishes placing an editorial or letter boosting science-fiction in general, or the SCIENCE FICTION LEAGUE in particular, in a newspaper, or that does anything else of equal value to the LEAGUE upon the decision of the Secretaries. This gives the member permission to call himself an Ace Member in his correspondence with others. To secure this permission, the applicant must write to Headquarters asking for a written statement that he is considered an Ace Member and may use the letter as proof that permission has been granted. Members calling themselves Ace Members without the proper authority will be expelled from the LEAGUE.

BACHELOR OF SCIENTIFICATION (B. Stf.)—member must pass the test given below with a grade of at least 70%; he must also offer to join some local Chapter. If there is not a Chapter in the member's neighborhood, he can apply to start one, which also makes him eligible for the M. Stf. degree.

MASTER OF SCIENTIFICATION (M. Stf.)—member must have a B. Stf., and submit to Headquarters a theme of not less than 5,000 words based on the educational values of scientification and its

help to society and the improvement of civilization. He also has the choice of one of the following: (1) at least one science-fiction story published in a newsstand magazine; (2) an editorial capacity on any magazine devoted to the furtherance of science-fiction ("fan" magazines); (3) be the Director of some local chapter of the LEAGUE; or (4) be on the Executive Board of the LEAGUE or an Honorary Member.

DOCTOR OF SCIENTIFICATION (D. Stf.)—member must have a M. Stf. and have at least five science-fiction stories published in newsstand magazines.

Following is the test that all members must take before they can secure degrees. Papers must be typewritten or in legible handwriting or printing and must contain the question as well as the answer to each. All papers submitted after December 31, 1934, will be invalid. This test will not be repeated in future issues. A new test will be printed every six months for new members. All problems should be answered from memory and we depend upon the honesty of members not to do any research or consult other members while taking the test. Each test must be done independently. Send all papers to The Science Fiction Test Judges, c/o The SCIENCE FICTION LEAGUE, 94 Hudson St., New York City, N. Y. Members in foreign countries, not on the North American Continent, are given until January 31, 1935, to complete the test. If you are not a member, but would like the B. Stf. degree, send your application to us with the test. The application for the B. Stf. degree must be sent with each test also.

THE FIRST SCIENCE FICTION TEST

To be taken by members of the SCIENCE FICTION LEAGUE who wish to secure the Bachelor of Scientification degree. Seventy per cent is passing.

PART ONE: General Quiz on Science Fiction—25 at $\frac{1}{2}\%$	12 $\frac{1}{2}\%$
PART TWO: Multiple-choice—25 at $\frac{1}{4}\%$	12 $\frac{1}{2}\%$
PART THREE: Completion—25 at $\frac{1}{4}\%$	12 $\frac{1}{2}\%$
PART FOUR: True and False—25 at $\frac{1}{4}\%$	12 $\frac{1}{2}\%$
PART FIVE: Essays on Science Fiction—2 at 5%	10%
PART SIX: Personal Opinions—4 at 2 $\frac{1}{2}\%$	10%
PART SEVEN: General Science—30 at 1%	30%
<hr/>	
100%	

PART ONE

General Quiz on Science Fiction

1. What was Dr. David H. Keller's first science-fiction story and where was it published?
2. Who wrote "The Hidden World"?
3. What author has written the greatest number of science-fiction stories?
4. Who wrote the Dr. Bird series of stories?
5. Name two authors who use pen-names, giving the pseudonyms.
6. Why is Edward Elmer Smith, Ph.D., sometimes designated as "Skylark" Smith?
7. Name three men, all of whom have been called "the father of science-fiction."
8. In what magazine was the series of "Dr. Hackensaw's Secrets" first published?
9. Name Hugo Gernsback's first great science-fiction novel.
10. What stories does the date 20,000 A.D. bring to mind? Clue: the date appeared in the titles of the stories, one of which was a sequel to the other, written by two authors in collaboration.
11. Name five science-fiction stories containing the word "Death" in the titles.
12. Do the same as the above with the word "Terror."
13. Name the two authors generally considered the greatest writers of interstellar travel novels.
14. What story by Stanton A. Coblentz appeared in the first issue of what magazine?
15. Name five artists who have illustrated science-fiction stories.
16. Name three popular female authors of science-fiction.
17. Name two stories which had the same title and the author of each.
18. What science-fiction magazine was published by the Experimenter Publishing Co.?
19. What magazine uses for its motto: "The Best in Science-Fiction"?
20. How has Harry Bates distinguished himself in the realm of science-fiction?
21. What is Wesco's full name?
22. Is "Paul" the first or last name of the artist?
23. Name the two most active science-fiction fans in the country.
24. How many quarterly magazines of science-fiction have appeared?
25. What does the name "Tumithak" remind you of?

PART TWO

Multiplechoice

1. Taine is: (1) an author (2) an artist (3) a character (4) a publisher.
2. Juve's first name is: (1) Dominik (2) Henrik (3) Epaminondas (4) Dahl.
3. Dr. Keller wrote: (1) "The End of Time" (2) "Skylark Three" (3) "The Conquerors" (4) "Airlords of Han."
4. One pseudonym used is: (1) Edmond Hamilton (2) Jack Barnette (3) H. G. Wells (4) Anthony Gilmore.
5. Stif. is the abbreviation for: (1) science-fiction (2) scientification (3) science (4) scientific fiction.
6. An editor of a science-fiction magazine is: (1) R. F. Staral (2) Arthur L. Zagat (3) Desmond Hall (4) Lumen Winter.
7. An author who writes mostly of Central and South American Indians is: (1) A. Hyatt Verrill (2) L. Taylor Hansen (3) Raymond A. Palmer (4) Nathan Schachner.
8. An active fan in San Francisco is: (1) Jack Darrow (2) Mortimer Welsinger (3) Forrest J. Ackerman (4) Milton A. Rothman.
9. The author often denoted as "World-Saver" is: (1) John Russell Fearn (2) Edmond Hamilton (3) Miles J. Breuer, M.D. (4) John Beynon Harris.
10. Eric Temple Bell writes under the name of: (1) Epaminondas T. Snooks, D.T.G. (2) Anthony Felcher (3) Marius (4) John Taine.
11. "What I Have Done to Spread Science Fiction" was: (1) an article (2) a contest (3) an editorial (4) a speech.
12. Charles de Richter is a: (1) German (2) Irish (3) Russian (4) French, science-fiction author.

13. Most of the foreign novels printed in American science-fiction magazines are translated by: (1) Fletcher Pratt (2) Paul Ernst (3) Otfried von Hanstein (4) Edgar Allan Poe.
14. A science-fiction magazine publishing only eleven issues dealt particularly with: (1) biology (2) the air (3) the sea (4) insects.
15. The phrase "even edges" appears mostly in: (1) the blurbs for the stories (2) the editorials (3) the readers' departments (4) the science questions.
16. The title of the first famous science-fiction story is: (1) "Ralph 124c 41 plus" (2) "Skylark of Space" (3) "The Moon Pool" (4) "Frankenstein."
17. In "The Blue Barbarians" by Stanton A. Coblentz, "gulgul," the medium of exchange among the Venusians, was: (1) sea-shells (2) a peculiar root (3) green glass (4) a small coin.
18. A planet named Aryl, closer to the sun than Mercury, was the locale of a story by: (1) Raymond Knight (2) R. F. Staral (3) Lilith Lorraine (4) Jules Verne.
19. The above-mentioned story was in the following series: (1) Hawk Carse (2) Detective Taine (3) L. F. P. (4) Lem Gulliver.
20. "The Man Who Could Vanish" was written by: (1) H. G. Wells (2) A. Hyatt Verrill (3) Edmond Hamilton (4) Edwin Balmer.
21. The word "scientification" was coined by: (1) Conrad H. Rappert (2) L. A. Esbach (3) Milton Katsky (4) Hugo Gernsback.
22. Morrison Colladay wrote two stories about: (1) giant caterpillars (2) a cosmic gun (3) the planet Mars (4) the end of the world.
23. The science in science-fiction should be: (1) dominant (2) technical (3) subordinate (4) practically absent.
24. People who read science-fiction must have: (1) a lot of money (2) common sense (3) imagination (4) a scientific education.
25. The author whose first story was "The Metal Man" is: (1) Jack Williamson (2) Edmond Hamilton (3) A. Merritt (4) Murray Leinster.

PART THREE

Completion

1. "The Moon Pool" by A. Merritt was first printed in ____.
2. Winger is the middle name of ____.
3. The scene on the cover of a January, 1929, science-fiction magazine, showing the destruction of New York City, was taken from the story ____.
4. Inca-land revolted in ____ by Wood Peters.
5. D.T.G. appears at the end of the author's name ____.
6. The character ____ in Dr. Keller's stories declares constantly that smoking destroys the enamel of the teeth.
7. "Through the Veil" by Leslie F. Stone was a story about ____.
8. An author whose best novels have been satirical is ____.
9. B. Luc Pencil, an editor, appeared in two burlesques by ____.
10. ____ was a story about Atlantis.
11. Giant termites appeared in the story ____.
12. The Space-Guard stories were written by ____.
13. Lem Gulliver was the leading character in ____ published stories.
14. "The Ark of the Covenant" was reprinted in ____ Magazine.
15. The story, ____, appeared in fantastic magazines at least three times.
16. Colonel Marsh was created in the stories of ____.
17. A fan in Hungary who makes science-fiction movies is ____.
18. Morey draws illustrations steadily for ____ Magazine.
19. ____ illustrated "The Man With X-Ray Eyes" by Edmond Hamilton.
20. Knute Savory was the hero in a novel by ____.
21. A science-fiction magazine which published only two numbers was ____.
22. ____ by Jules Verne appeared in the first issue of the first science-fiction magazine.
23. The only science-fiction magazine without a monthly scientific editorial is ____.
24. "Suggestions to Authors" have been prepared for the aspiring authors of ____ Magazine.
25. Ray Cummings' best novels concerned visits to ____.

PART FOUR

True and False

1. All the science-fiction magazines are edited in New York City.
2. Leslie F. Stone is a woman.
3. Anthony Gilmore wrote the Dr. Bird stories.
4. A. Merritt composed "The Blind Spot."
5. Astonishing Stories printed seven issues.
6. Fletcher Pratt has never written a story without collaboration.
7. Nathan Schachner wrote "The Man Who Awoke" stories.
8. Very few stories have appeared in which mad scientists have conquered the world.
9. Time-travel is no longer being used as a theme for science-fiction stories.
10. Pluto is the only planet which has not been used for the locale of a story.
11. "The Man from Tomorrow" by Stanton A. Coblenz was a satirical serial.
12. "Deluge" was written by Garrett P. Servias.
13. Clark Ashton Smith has not written a story in two years.
14. Arthur Leo Zagat once collaborated with Nathan Schachner.
15. "Manape the Mighty" was written by Murray Leinster.
16. The same authors write for all the science-fiction magazines.
17. Science-fiction stories appear in other magazines besides those devoted to it.
18. "When Worlds Collide" was written by Edwin Balmer and William MacHarg.
19. Washington is the only large city in the country that has not been destroyed in science-fiction stories.
20. "Dracula" is an old science-fiction novel.
21. Ellis Parker Butler has written science-fiction.
22. Some of H. G. Wells' best novels were recently reprinted in book form.
23. Nearly one-quarter of the people in the country are rabid science-fiction fans.
24. At one time there were six science-fiction magazines on the newstand.
25. Only one science-fiction annual magazine has been published so far.

PART FIVE

Essays on Science Fiction

1. In at least 250 words, tell why you read science-fiction.
2. Give the plot of your favorite science-fiction story in no less than 250 words.

PART SIX

Personal Opinions

NOTE: All answers in this part must contain at least 100 words each.

1. Who is your favorite science-fiction author and why?
2. What is your favorite science-fiction story and why?
3. What is your favorite science-fiction magazine and why?
4. Do you think science-fiction has a promising future?

PART SEVEN

General Science

1. How many planets are in the solar system?
2. What is the approximate speed of light?
3. Is the surface of Venus mountainous?
4. What word does the word "crater" remind you of?
5. Whose theory explains the curved universe?
6. What is Lorentz-Fitzgerald associated with?
7. Name three insects with good social systems.
8. Why could men not live on the moon?
9. Which is the "red planet"?
10. Which is the largest planet in the solar system?
11. What elements are radio-active?
12. How many elements are there in existence?
13. Which planet is the last discovered?
14. What are the asteroids?
15. What does evolution teach?
16. Are the orbits of the planets perfect circles?
17. Are "termites" and "ant" synonymous terms?
18. Where is the north magnetic pole?
19. What speed is necessary for a rocket to leave the gravitational field of the earth?
20. What is the air-pressure at sea-level?

21. Has the atom ever been split?
22. What is heavy water?
23. Roughly, what is the diameter of the earth?
24. What are sun-spots?
25. How many moons has Venus?
26. What is the nearest planet to the sun?
27. What is an amoeba?
28. About what is the distance from the earth to the sun?
29. What keeps dirigibles in the air?
30. With what science is Sir James Jeans associated?

Don't forget to include your "Application for B. Stf. Degree" coupon with your answer to the test. Coupon in this department.

BOOK DISCOUNTS

Several members have written in asking how they can secure the discounts on science-fiction books that we said publishers will allow, when the LSAAG was formed. All you have to do to get these discounts is write to the book publisher, ordering the book (which must be science-fiction) and ask for the discount which you are entitled to as a member of the LSAAG. Most publishers will heed your request.

YOUR CERTIFICATE

To date, several members have not claimed their certificates, although their applications have been received and approved. The certificate is given free to all those who find it possible to call at Headquarters for it. However, when it has to be mailed, a mailing and handling cost of fifteen cents is charged. We urge you to send in your fifteen cents if you cannot call for your certificate. You will find it necessary to have a certificate in order to enter any Chapter, and for other times when identification is necessary.

PAMPHLET OF INFORMATION

We have prepared a four-page leaflet adopted from our editorial in the May, 1934 issue of WORDS AND STORIES, which outlines the rules and purposes of the LEAGUE, with an application. These will be provided free of charge to those who wish to join and have not already done so, or to members who want to convert others. Please send a stamp to cover mailing cost.

CORRESPONDENTS

All members are free to enter their names upon this list, telling just who they would like to write to (ages and sex), where they should live, and perhaps what they should be interested in.

This correspondence list is for members of the SCIENCE FICTION LEAGUE and those entered are warned against questionable letters they may receive from outsiders. If your entry does not bring the results you desire, make your next one take in a wider field, either in ages, locality, or hobbies. By notifying Headquarters when the issue appears containing your name, you may have it repeated the second month following, and by doing this every two months, have the entry six times per year. However, you will probably not wish to do this, for you are likely to secure all the correspondents you desire with the first insertion.

Albert Victor Bleiden, 206 Avenue du Roi Albert, Shanghai, China, Member Number 530, would like to correspond with fans living in the U.S.A.

Harold R. Garrett, 1392 E. Broadway, Sedalia, Mo., Member Number 582, wishes to strike up friendship with members who are interested in the collecting of science-fiction, those who like astronomy, and those who especially enjoy interplanetary tales and stories of prehistoric days.

Richard Herbert Clark, 52 Marlborough Rd., Tuebrook, Liverpool, England, Member Number 536, is willing to answer all letters sent by members as promptly as possible. Here is another opportunity, along with the first one in this list, for American members who want pen-pals across the sea.

Roy A. Sanders, 653 Isabella St., Oakmont, Pa., Member Number 255, would enjoy corresponding with anyone interested in good writing and characterization, both mental and physical, in science-fiction.

George Gordon Clark, 8799 Fifteenth Ave., Brooklyn, N. Y., Member Number One, desires to correspond with members between the ages of eighteen and

twenty-one, interested in biology and transportation in the future.

Albert Griffiths, 37 Richmond Rd., Bradford, England, Member Number 435, wishes to get in touch with people of his own age, between fourteen and eighteen years old, of either sex, who live in England or America, and who are interested in science.

SCIENCE-FICTION IN GERMANY

"I very much desire to apply for membership in the SCIENCE FICTION LEAGUE," writes Walter Koch from Duesseldorf, Germany. "Although my profession happens to be more commercial than scientific, I have always been immensely interested in science-fiction. I have the WONDER STORIES sent to me from London regularly. In spite of the fact that Germany has some of the most prominent scientists the world knows of, it has not been accomplished thus far to publish any real good interplanetary stories, such as are to be found in WONDER STORIES. This magazine is, no doubt, the best to be had in the line of science-fiction! At the English Conversational Circle of which I am president, we do, I dare say, nothing but read in this marvelous magazine. Now I am not, by any means, the only German who is anxious to join your LEAGUE—I just want to make the start, if no one else has yet.

"I shall eagerly await your reply as to whether you will permit me to join the LEAGUE. You may be fully assured that I shall do all I possibly can to attract new members over here in Germany. I am bound to succeed!"

And we agree with Mr. Koch—he is bound to succeed. We have already let him know how anxious we are to have him join and have suggested that he start the GERMAN SCIENCE FICTION LEAGUE with his English Conversational Circle, which we do not doubt he will be anxious to do. We hope to hear more from Mr. Koch very soon now, and will announce his willingness to start the German Chapter as soon as we hear from him concerning this. His enthusiasm is another example of that existing throughout the world.

SCIENCE-FICTION MOVIES

For the past few months we have published a notice asking everyone to send his name to E. C. Reynolds, Member Number 315, at 3235 1/2 Descanso Drive, Los Angeles, Calif., telling him that he would like the movie producers to turn out more and better science-fiction movies. As soon as he had ten thousand names, we announced, Mr. Reynolds would send the petitions to the producers, and they would undoubtedly take effect. However, the results so far have not been gratifying. We received the following communication from Mr. Reynolds:

"What is the matter with you LEAGUE members and science-fiction fans; don't you want to see science-fiction stories produced in motion pictures? Do we have to resort to high-pressure salesmanship to induce you to send in your petition? I think not; it is just neglect. I'm sure that you are just as anxious to see science-fiction stories produced on the motion picture screen as we are. So put the lead in your pencils, not in your pants; get out the ink bottle or typewriter and send in your petition now while you think of it. During the past two months we have received eleven petitions. Let's make it five hundred this month.

"I have started the ball rolling by sending an advance notice to the Universal Pictures Corporation, Universal City, Calif., of our intentions. But I cannot put this plan over alone; you members and fans must help. Send in your petitions now and let's make it five hundred or more!"

Don't hesitate, whether you are a member of the LEAGUE at present or not. Send in your name and those of your science-fiction friends (each must sign his own name). We want Mr. Reynolds to have his ten thousand petitions as soon as possible—let's make it a matter of months and not years!

ANOTHER ACE MEMBER

"Success has come my way at last!" writes Theodore Lutwiniak of Jersey City, Member Number 26. "I have written an article on science-fiction and have had it published in a paper called *The Ukrainian Weekly*. This paper is a supplementary to a larger paper, the larger paper being published in the Ukrainian language and the supplementary in English. *The Ukrainian Weekly*, issued with the parent paper, is

circulated throughout the United States. It has many Ukrainian-American readers and I dare say that my article will bring results. You will find the article enclosed."

And the editorial, which adds another Ace Member to our midst, is as follows:

"SCIENCE IN FICTION"

"There are thousands of different kinds of magazines on the newsstands. In this article we will deal with the fiction or pulp magazines. There are aviation stories, Wild West stories, detective fiction, love stories, weird tales, railroad fictions, ghost stories and, last but not least, science-fiction.

"I have read magazines—many of them—and have found that aviation stories become monotonous; Wild West stories are fit only for youngsters; detective fiction isn't as good as it once was (probably due to a limitation of good, original plots); love stories are terrible and I do not hesitate in denouncing some of them as trash; weird tales are too fantastic and sound more like fairy tales; railroad stories—good for the young railroadman (or railroad-boy); ghost stories—I have never bothered to peruse; crime stories I do not like; as for science-fiction—well . . .

"I have found by actual experience that science-fiction is mind-broadening, educational, interesting, and is written in such style that the reader often finds himself believing that what he is reading has actually happened. Scientific facts form the basis of stories of this type and common sense will show the reader that there is no reason why the story he is reading cannot actually happen. One must read a science-fiction magazine to realize the real value of stories of this type. He will find it a relief from the boring detective and aviation magazines.

"Of course I admit that science stories are imaginative, but so are most of the other types of fiction. One must take into consideration, however, that science-fiction is based on scientific facts. Authors of science stories weave an interesting yet plausible adventure from a scientific fact.

"Once a person starts reading science-fiction, he finds it hard to discontinue the practice. The fact is that he will attempt to write such a story himself. This is true in my case, but I haven't met with any success as yet.

"It must be understood that I have no other reason for praising science-fiction than to bring out the fact that of all the magazines on the market those dealing with science are the most recommendable."

COMPLAINT FROM A MEMBER

Bernard Novitsky, Member Number 152, of Pittston, Pa., has been sending out circular letters to LEAGUE members on his LEAGUE stationery stating that he can help them complete their science-fiction collections and quoting very fair prices on back issues of the science-fiction magazines.

Mr. William S. Sykora of Long Island City, Member 208, in a letter dated September 28, 1934, made complaint of this, stating that it was against the policy of the LEAGUE for members to do such things. In answering him, we said in part:

"Now, Member Sykora, we'd like to know what your objection is. What crime has Mr. Novitsky committed? As far as we can see, his prices for magazines are very reasonable.

"These letters he has sent out may help other members to secure the magazines missing from their collections at a reasonable price, and therefore, he is really a help to the LEAGUE, though we believe he could get better results with less expense if he advertised in the WONDER STORIES SCIENCE FICTION SWAP COLUMN—however, that is up to him.

"We could see your objections to Member Number 152's act if you could prove that he was demanding exorbitant prices, or cheating his customers by sending them faulty magazines, or not sending them any at all, or using his stationery to defraud our members in any way. In this case he would be promptly, and without ceremony, expelled from the LEAGUE. He acquired the LEAGUE stationery from simple purchase.

"We do not see how the receipt of his letter, which implies no obligation but is offering you an opportunity to increase your science-fiction collection, can cause offense. However, if you can show us any reason why Mr. Novitsky should not be allowed to circulate his bargain, due to his dishonesty or anything else, we would be only too glad to hear from you and act accordingly."

We received Mr. Sykora's answer to this a few days later, in which he says:

"Since you request it, and since you go so far as to hide the real issue by extolling the bargain prices of Mr. Novitsky's offerings, I will explain my objection to using our club's stationery for such purposes, as clearly and concisely as it is in my power to do so.

"In the first place, there has been no agreement among the members of our LEAGUE that any of us should be permitted to approach the others with offers of a commercial nature. I feel sure that a great many members would not have joined had it been brought home to us that we would thus leave ourselves open to the efforts of any person with an axe to grind. In order to make assurance doubly sure, I am broaching this question to my putty correspondents who are my fellow members. I am putting the situation before them as fairly as may be with the request that they discuss the question, not only with myself, but with you too.

"In the second place, and the one of greatest importance, such a commercial activity as the one I have thought of sufficient importance to bring to your attention is expressly forbidden by the rules and regulations of our society, to wit: (quoting from pp. 1062-63 of the May number)

"THE SCIENCE FICTION LEAGUE is not sponsored by any group of wealthy people, nor is it hampered in its work by commercially inclined factions. Instead, it is supported wholly by the enthusiastic work of its own members.' (I feel sure that this work does not include Mr. Novitsky's effort to spread science-fiction, nor was it meant to be rewarded with monetary compensation.) There are no dues or fees of any kind, and the LEAGUE has no income whatsoever, except from the sale of a number of items which are purchasable only by the supporting members of the LEAGUE. . . . In no case does the LEAGUE sell commercial products, books, or literature of any kind.' (I take it that the LEAGUE in this, as in all other cases, means not only the governing body, which after all is only a small part of the whole, but all members who make up the real SCIENCE FICTION LEAGUE itself.)

"I do not choose to discuss the merits of Mr. Novitsky's offers, but I do firmly hold that it is against the non-commercial and fraternal principles of the LEAGUE to permit any member to use the LEAGUE's stationery for his own personal commercial enterprises."

We still believe that Mr. Novitsky has not disobeyed any of the rules of the LEAGUE. When we say that "in no case does the LEAGUE sell commercial products, books, or literature of any kind," we mean Headquarters, of course. If a member has magazines that will complete the collection of a brother member, you cannot expect him to give them away free all the time, though this will probably happen often if Mr. Novitsky was advertising "Pink Pig for Pale People" or "How to Keep Burglars From Coming in the Windows at Night" (which is by leaving the doors open) we should certainly object strenuously. However, we leave it up to you, the members of the LEAGUE, to decide. Let us know whether you permit of such actions as Mr. Novitsky's or not. After all, there is nothing in the LEAGUE that puts you under obligation to Mr. Novitsky and we would like to know some real objections to his actions. We don't see how you can be offended by receiving literature of this nature. What do you say?

A POTENTIAL DIRECTOR

We recently received the following communication from an active fan in far-off New Zealand:

"This letter is to announce the advent of a much-needed science-fiction organization in New Zealand. Would you be good enough to publish this in your 'Reader Speaks' section?

"The New Zealand Science Fiction Association is to be a body for the promotion of this type of literature in New Zealand and a medium through which all members may communicate and express their views. We hope to bring all lovers of science-fiction together in this cause.

"Would all New Zealand and Australian readers interested, please communicate with me? To such inquiries we will mail further information. The subscription rates will be low, and we are thinking of publishing a small monthly bulletin through which we may communicate, express views in science-fiction of the month, etc. This will come when we reach a certain membership. I wish your fine magazine every success."

Evidently, Mr. Tokens, the author of this letter, was unacquainted with the SCIENCE FICTION LEAGUE

when he conceived this idea, or thought that the LEAGUE is only for members in America. The LEAGUE is international and we already have members in all parts of the world. We suppose that Mr. Tokens will want to start the New Zealand Chapter of the LEAGUE and will be pleased to announce him as its Director. In this manner, he can secure many members he would not have otherwise. It is, of course, easier and more satisfactory to join a large worldwide organization than to start one of your own from scratch—the advantages are too numerous to go into here, and certainly the distinction that comes with being a Director in the LEAGUE is something to be proud of. We are waiting to hear from Mr. Tokens concerning the New Zealand SCIENCE FICTION LEAGUE. The day will come when Chapters of the LEAGUE are all over and members will not be able to start a new Chapter merely by request—so we advise you to take advantage of the opportunity while it is still here.

THE BROOKLYN CHAPTER

This is to announce that on October 15, 1984, the BROOKLYN SCIENCE FICTION LEAGUE, Chapter Number One, was formed and organized by George Gordon Clark, the Director. Charter members include the following (member number follows name): Gilbert Cohn (437), Lonis Heynick (446), August C. Hinek (298), Morris Miller (274), Sol Rubin (19), Herbert Rubinstein (38), Meyer Solomon (419), Ralph Tropano (456), and George Gordon Clark (1).

"In the forming of the Chapter in my district," writes Director Clark, "I have been helped a lot by the list you sent me of local members. I sent out a questionnaire of twenty-four cards but the response is lax. Please print some kind of a notice for those members who receive a communication from the District Director to please co-operate with, and answer, him as soon as possible to help form his Chapter. In my case, it is quite a task to keep writing to twenty-four members; therefore I suggest that members in writing to their District Director state the following things to help him in his work:

- "1. Member number.
- "2. Date of birth.
- "3. If business, professional, or student and type.
- "4. Kind of stories preferred and why.
- "5. When meetings are preferred—weekly or monthly, day and time most convenient.
- "6. Whether as a true member he will try to eliminate all issues that may tend toward personal animosity.
- "7. If reasonable dues are favorable.
- "8. Suggestions for places to meet in.

"I think that this small list forwarded by that member communicating for the first time with his District Director will be of a great help in simplifying his work in forming a Chapter."

We highly recommend Mr. Clark's suggestions for members who want to join the local Chapters. Try to help your local Director as much as possible. We urge all of our Brooklyn members of the LEAGUE to write to Director Clark. Address your letter as follows:

BROOKLYN SCIENCE FICTION LEAGUE, Chapter Number One, George Gordon Clark, Director, 8709 Fifteenth Ave., Brooklyn, N. Y.

THE LEWISTON CHAPTER

This is to announce that on October 16, 1934, the LEWISTON SCIENCE FICTION LEAGUE, Chapter Number Two, was formed and organized by Stuart Ayers, the Director. Charter members include the following (member number follows name): Dwight Edwards (131), Howard Copeland (493), and Stuart Ayers (69). We are allowing Chapters to form with only three members to start, in order to get them organized as soon as possible. After a Chapter is formed, members will join more readily.

Here are the minutes of the first meeting of the LEWISTON SCIENCE FICTION LEAGUE, as sent in by Director Ayers:

"The meeting was called to order by myself, the Director. There are only three members, Dwight Edwards, Howard Copeland, Stuart Ayers—and as it was necessary, we chose from amongst us the various officers necessary. These will hold their positions till the LEAGUE grows a good deal larger; we are all intensely enthusiastic, so we feel justified in having done this.

"Howard Copeland was elected Assistant Director by the two-out-of-three majority; Dwight Edwards

was chosen Secretary-Treasurer; the others have let me be Director.

"It was a real meet-the-boys meeting. We had a visitor, a prospective member, Fred Moon, of Lewiston, who listened intently to our plans and explanations. We loaned him some science-fiction, as a better sales talk than mere eloquence. And there are other prospects on our list.

"There is hardly any need to race into detail concerning our short study of science-fiction. The next meeting may express something more useful."

We are glad that the Lewiston Chapter is so well under way, even if it only has three members, and you will see that our point is proven; they are already interesting potential fans. This shows that a little co-operation will bring in new members, and that a group, even a small one, can accomplish much more than an individual. When a person sees that there is not just "one" fan trying to convince him, but an organization of fans, he will think more seriously of the matter. Remember also that newspapers will print, free of charge, notices announcing the meetings of the local Chapters, in which notices the Directors may invite visitors who will later join the Chapters. When a group of people form into a unit, they can usually get lots of publicity that a single person could not secure. Everyone wants to belong to a club, and what better one is there for lovers of fantasy than the SCIENCE FICTION LEAGUE? Directors, publicize your Chapter as much as possible through your local newspapers and propaganda. We repeat, three members are enough to start a Chapter. We urge all members of the LEAGUE in or near Lewiston to join the Mr. Ayers' Chapter. Address:

LEWISTON SCIENCE FICTION LEAGUE, Chapter Number Two, Stuart Ayers, Director, 1411 Tenth Ave., Lewiston, Idaho.

PROPOSED CHAPTERS

Here is this month's list of volunteers for the directorship of local Chapters of the LEAGUE:

WASHINGTON SCIENCE FICTION LEAGUE (Proposed). T. J. Mead, 1819 G St., N. W., Washington, D. C.

JERSEY CITY SCIENCE FICTION LEAGUE (Proposed). Theodore Lutwiniak, 172 Pavenia Ave., Jersey City, N. J.

MOLINE SCIENCE FICTION LEAGUE (Proposed). Carl R. Canterbury, 1527 Eleventh Ave., Moline, Ill.

LOS ANGELES SCIENCE FICTION LEAGUE (Proposed). E. C. Reynolds, 3235½ Descanso Drive, Los Angeles, Calif.

ERIE SCIENCE FICTION LEAGUE (Proposed). Jack Schaller, 324 East 5th St., Erie, Penn.

DES MOINES SCIENCE FICTION LEAGUE (Proposed). Vernon H. Jones, 1806 Sixth Ave., Des Moines, Iowa.

DENVER SCIENCE FICTION LEAGUE (Proposed). Olon F. Wiggins, 2418 Stout St., Denver, Colo.

LIVERPOOL SCIENCE FICTION LEAGUE (Proposed). Leslie F. Johnson, 46, Mill Lane, Old Swan, Liverpool 15, England.

INDIANAPOLIS SCIENCE FICTION LEAGUE (Proposed). Henry Hasse, 1236 Wade St., Indianapolis, Ind.

CENTRAL TEXAS SCIENCE FICTION LEAGUE (Proposed). Alvin Earl Perry, Box 265, Rockdale, Texas.

SHANGHAI SCIENCE FICTION LEAGUE (Proposed). A. V. Belden, 208 Avenue du Roi Albert, Shanghai, China.

PHILIPPINE SCIENCE FICTION LEAGUE (Proposed). J. R. Ayco, Bacolod, Neg. Occ., Philippine Islands.

PHILADELPHIA SCIENCE FICTION LEAGUE (Proposed). Milton A. Rothman, 2500 North Fifth St., Philadelphia, Penn.

SACRAMENTO SCIENCE FICTION LEAGUE (Proposed). Arthur Jones, Jr., 2717 Santa Clara Way, Sacramento, Calif.

BUFFALO SCIENCE FICTION LEAGUE (Proposed). Leo Rogers, 616 Jefferson Ave., Buffalo, N. Y.

STATEN ISLAND SCIENCE FICTION LEAGUE (Proposed). Rudolph Gentsch, 50 Holly St., Dongan Hills, Staten Island, N. Y.

ST. LOUIS SCIENCE FICTION LEAGUE (Proposed). Harold Rice, 4129 Washington Blvd., St. Louis, Mo.

MANCENONA SCIENCE FICTION LEAGUE (Proposed). Arthur Green, Mancenona, Mich.

BRONX SCIENCE FICTION LEAGUE (Proposed). Julius Morris, 1416 Croes Ave., Bronx, N. Y.

DANVILLE SCIENCE FICTION LEAGUE (Proposed). Robert H. Anglin, 252 Jefferson Ave., Danville, Va.

CHICAGO SCIENCE FICTION LEAGUE (Proposed). William H. Dellenbach, 732 Burton Court, University of Chicago, Chicago, Ill.

OAHU SCIENCE FICTION LEAGUE (Proposed). Birney Montcalm, Army and Navy Y.M.C.A., Honolulu, T. H.

MILWAUKEE SCIENCE FICTION LEAGUE (Proposed). Raymond A. Palmer, 1406 W. Washington St., Milwaukee, Wis.

When a reader would like to become a part of any Chapter, he must first join the parent body, then send in his name and address to the Director (the one who wishes to form the Chapter he wants to join). Such person should live in the district in which the Chapter is located so that he can attend meetings.

If you wish to form a Chapter, let us know, and we will publish the fact. When you have a number of names on your list of those who want to join the local Chapter (wait at least three weeks or a month for these after the issue appears containing your name) send the list to us and, providing all the names are entered as members at Headquarters, the local Chapter will be declared. Do not apply to start a Chapter in any city mentioned already in these lists. One Chapter in each city (except Greater New York) will be enough to start with. Later on, more will be organized when demand warrants it.

We will give your Chapter an official name and number. From then on, the name and address of your Chapter will be printed in every issue of WONDER STORIES, so that those who become members of the SCIENCE FICTION LEAGUE from time to time, who live in your neighborhood, may join, increasing the size of the Chapter. Dues or fees of any kind may be charged within local Chapters, in order to carry on special activities, only upon the agreement of all the members. Those members who do not wish to contribute, will not be expelled from either the Chapter or the LEAGUE by not doing so. In other words, all contributions must be voluntary, though a specific amount may be decided upon. This will be done only within local Chapters—there will be no dues or fees of any kind conducted by the LEAGUE Headquarters. Treasuries accumulated by this method may be used to issue pamphlets, hire halls or lecture rooms, or any other reasonable thing that the Director and local members see fit to use it for. This also includes outings, parties, etc. The Director or his appointee will be the presiding officer at each meeting. Assistant Director, Secretary, and Treasurer may also be elected by the local members. However, accurate minutes must be kept, a duplicate of which will be sent to Headquarters directly after they have been approved at the next meeting. Important activities recorded in the minutes will be discussed in this department, which will be the voice of the LEAGUE and all its Chapters. Meetings may be held at any frequency, everything to be decided by the local members. All helpful suggestions made by members during any meeting will, of course, be recorded in the minutes and therefore prove of value to other Chapters. There is to be no competition between Chapters—they are to co-operate, and perhaps, after a while, we will have a grand convention somewhere with delegates from the various Chapters. Would you like to be a Director of a local Chapter of the LEAGUE? There will be very little responsibility on your part, and it is not hard to find a meeting place. If you can't start off with a lecture room or hall, or one of the members' homes, then you can meet in the nearest public park until the Chapter is larger and can afford something better.

SUGGESTIONS

Here are a few advance suggestions of how you can help the SCIENCE FICTION LEAGUE:

(1) If you wish to form a local Chapter of the LEAGUE, get a newspaper to print a notice in the society or club section. They will do this free of charge and it will aid you in securing many members.

(2) Send to Headquarters all the suggestions that you believe will improve the SCIENCE FICTION LEAGUE and its activities. You may have some valuable ideas that will greatly aid the cause of science-fiction. This department will appear monthly in the magazine and will be used as the voice of the members and executives, so do not hesitate to use it freely.

(3) If you are a student in high school or college, try to form a Chapter of the LEAGUE in the building, with students as members. Most educational institu-

tions allow for clubs of all sorts and would be pleased to harbor one more, especially one with standards as high as the SCIENCE FICTION LEAGUE. These school Chapters will be treated in Headquarters as any other Chapter. In order to form a Chapter of the LEAGUE, send your name to us with those of all other members who wish to form the Chapter and the name under which the Chapter will be known. We will send you an officially signed certificate, confirming the existence of the Chapter with its number.

(4) Try to write editorials propounding the merits

of science-fiction in general and place them in your local newspapers. Stress the fact that science-fiction is educational and broadens the minds of the readers.

(5) Study science-fiction carefully and form a series of conclusions in your mind as to its merits and accomplishments. Organize your ideas so that you can talk freely and convincingly to potential followers on the subject. Be able to tell at a moment's notice just what it is and why you are an enthusiastic advocate. This, with Suggestion Two, is very important to the purpose of the LEAGUE. All members who are instru-

Application for Membership **SCIENCE FICTION LEAGUE**

I, THE UNDERSIGNED, herewith desire to apply for membership in the SCIENCE FICTION LEAGUE. I have read the rules of the LEAGUE, and hereby pledge myself to abide by all the rules and regulations of the SCIENCE FICTION LEAGUE. Enclosed find fifteen cents (15c) to cover the mailing and handling charges for this certificate.

Name

Address

City and State

Country

Date

(It is important the reverse of this blank be filled out.
No application valid without.)

Application for B. Scf. Degree **SCIENCE FICTION LEAGUE**

I, THE UNDERSIGNED, herewith apply for the Bachelor of Scientific-Fiction Degree, and enclose my copy of the First Science Fiction Test which I have answered according to the directions, honestly and without the help of others. (This application, or a facsimile, must accompany each test.)

Name

Month Joined

Member Number

Length of Time Reading Science-Fiction

Date

(It is important the reverse of this blank be filled out.
No application valid without.)

mental in securing any special attention to the LEAGUE will receive due acknowledgment and will find that it will be profitable to them to be so mentioned.

Rome was not built in a day, we have often been told, and the same can be said for the SCIENCE FICTION LEAGUE. Organized less than a year ago, it has not had time to develop as yet. Plans will materialize as we go along. The LEAGUE has one prime purpose—to spread the worthy gospel of science-fiction. That is the basis of the LEAGUE, and its goal will not be reached until everyone knows of science-fiction and

respects it as the most powerful literary force in the world. We can hardly hope for this for a long time to come, but every scheme, plan, or idea that will aid us in reaching that goal is welcome. New ones will be broached every month by the executives and members—will you do your part? We do not expect every member to have an inexhaustible reservoir of ideas but we will appreciate all suggestions offered.

If you have not as yet joined the LEAGUE and wish to do so, you will find application blanks in this department.

(REVERSE SIDE)

I consider myself belonging to the following class: (Put X in correct square.)

Professional

(State which, such as doctor, lawyer, etc.) ☐

Business (State what business)

☐

Author

☐

Student

☐

..... ☐

Age.....

Remarks:

(REVERSE SIDE)

Place a check in one of the following squares:

I have already volunteered to join a local Chapter of the SCIENCE FICTION LEAGUE through one of the Chapter Directors located near me ☐

I will write to the Director of the local Chapter nearest me during the next week, offering to become a member of the local group ☐

I have already applied to you to become Director of a local Chapter and my name has been published as volunteer in the LEAGUE department ☐

I hereby volunteer to become the Director of a local Chapter, because there is none in my immediate vicinity that I can join ☐

Remarks:

The Reader Speaks

IN this department we shall publish every month your opinions. After all, this is your magazine and it is edited for you. If we fall down on the choice of our stories, or if the editorial board slips up occasionally, it is up to you to voice your opinion. It makes no difference whether your letter is complimentary, critical, or whether it contains a good,

old-fashioned, brickbat. All are equally welcome. All of your letters, as much as space will allow, will be published here for the benefit of all. Due to the large influx of mail, no communications to this department are answered individually unless 25c in stamps, to cover time and postage, is remitted.

Notice to Readers

While we have enlarged this department as much as we felt it possible to do, we cannot publish all of the letters that you, the readers, send in to us—otherwise the magazine would consist of about fifty per cent fan mail, and we are sure you would not like that. Therefore, we are forced to publish only those that are the most interesting and the most legibly written and understandable—letters that we feel will be of interest to everyone. So if you have written in to us and have not had your letter published, remember that we read every letter carefully and consider each one, so your efforts are never wasted.

Scientifictionuts

By Hoy Ping Pong

Green ones, red ones, purple and yellow,
Dazzling, brilliant, or dark jade.
They make you melt, freeze or bellow,
Manufactured or home-made—
Rays! Rays! Rays!

From Mars, Jupiter, and Uranus—
And constellations of the Cosmos;
Even from this Earth's guts
They come forth to drive us nuts.
Invaders! Invaders! Invaders!

I hope that I shall some day see
A perfect scientifiction story.
Minus the invaders and their rays,
So that I can live the rest of my days
In Peace! Peace! Peace!

THE END

The Story's the Thing

Editor, WONDER STORIES:

Paul is the best science-fiction artist I know of, but I do not believe in too much of a good thing, so the use of a different artist for the cover occasionally will keep Paul from growing stale in our minds.

I agree that the print in the letter department is too small; I had to make a pair of telescope-glasses to read it in comfort!

The stories in our mag are becoming more and more original and interesting. Perhaps the old readers cannot adjust themselves to the *distinctly different* trend our mag is taking, unlike the oft-repeated plots in our competitors'.

Donald Wollheim pettishly refusing to read "Druso" because it was by a German author was very unfair. Would Donald A. Wollheim be to blame if this country broke out into a violent civil war with the communists? Certainly not! And neither is the German to be blamed for his Fatherland's troubles.

WONDER STORIES is the best mag of prophetic fiction on the market.

Claude Dames does not want reprints of Wells because he is too ancient! At present he is very much alive, and in full possession of his faculties. I realize the fact that Wells needs no defense, but I obtain a certain amount of satisfaction in so doing. He is my second favorite science-fiction author because of his splendid scientific knowledge that makes his stories

remarkable for science plus weird adventure, bold imagination, and enlivening humor. His remarkable knowledge of the history of man in his stories (as evidenced by his Outline of History which was one of the most successful books of recent times) coupled with his scientific training makes him doubly able to portray the future.

Hugo Gernsback is my favorite, and he is the only s.f. writer I know of besides H. G. Wells who is listed in "Who's Who." This letter is chiefly meant to petition Gernsback to write another s.f. story, or to continue "Baron Muenchhausen's Scientific Adventures," which he ended so abruptly in 1915 in the *Electrical Experimenter*. I feel positive a story by him would be welcomed by the fans, and surely Gernsback won't let all his faithful fans down (I know several people who would like him to write another story). Also, Gernsback is so ingenious it should be a cinch for him to find the time to write a little story for his humble followers.

I liked the "The Last Shrine" very much because of its unusualness, and because it had something about hypnotism in it, which is usually hard to find in our mag.

WILLIAM FAULTON,
Springfield, Mo.

(You seem to have a good idea in your third paragraph, although we wouldn't say that our *older* readers cannot adjust themselves to our new stories—rather those who have read the other magazines and suddenly started to read ours. Those that have grown with the magazine heartily approve of our new policy.

You, like many others who disapproved of Mr. Wollheim's letter, can see that the *story's the thing*, and the nationality of the author should have nothing to do with it. It would be ridiculous to reject a story on the grounds that we didn't like the system of government in the author's native country!

What Claude Dames probably meant when he said that Wells is ancient is that he wrote his science-fiction about thirty years ago or more. He is not writing this type of literature today. There were no science-fiction magazines when he turned out his classics.

"As to Baron Muenchhausen, yes he's still alive and you'd be surprised at where he is now! Recently I established a short contact with him by means of my new *sub-ultra-micro-short-wave set*. And the only reason I have not given his latest really incredible scientific adventures to a skeptical world is because the world had to first catch up with science sufficiently to appreciate his astounding tales. Suppose you had talked about radio and television to the ancient Romans! But if you readers really want to hear from the wily Baron, let's hear from you."—EDITOR.)

We brought out a list of many science-fiction authors who are rated in "Who's Who" in our answer to Mr. Milton Kaletsky's letter in our December, 1934 issue.

Darrow's Monthly Letter

Editor, WONDER STORIES:

I liked the November issue of WONDER STORIES much better than the previous issue.

"Dawn to Dusk" by Rando Binder started off to a fine beginning. Here's hoping you'll rush those concluding installments along. You would stretch it

out to three parts. Why, oh, why, did you not give it a cover? Have you any good reason for refusing your serials covers?

I found "Valley of Dreams" even more interesting than "A Martian Odyssey." Here's another up-and-coming author. What do you mean by calling it a feature story? It did not get the cover.

"The Fall of the Eiffel Tower" was much better than your previous French translation.

"Twenty-Five Centuries Late" certainly was a peculiar little tale. Very enjoyable.

I usually enjoy the tales of prehistoric monsters and "One Prehistoric Night" was no exception.

Here's hoping no one discovers "The Control Drug." Let's have more short-shorts like "The Growth Promoter."

Paul's vivid cover should attract much attention. His drawing for "Dawn to Dusk" looked as though it had been drawn rather hastily. His others were fine though.

If you use a smooth finished paper, the print would be much clearer. I liked the paper last used in the large size. (Do you have to mention the large size?—Editor. Yes, I still prefer the large size.—J. D.)

How is the SCIENCE FICTION LEAGUE membership coming along?

JACK DARROW,
Chicago, Ill.

(Jack Darrow, fan-critic, never fails to send in his monthly letter after reading each issue of WONDER STORIES, and we are sorry that we are forced to leave one out now and then. We are glad to see that all the stories in our November issue were to his liking, and that his interest in science-fiction never wanes, though he has been a constant fan for many years.)

THE SCIENCE FICTION LEAGUE membership is coming along fine and many Chapters are getting underway. You will notice in the LEAGUE department that William H. Dellenback, of your city, has offered to start the Chicago Chapter and we are sure that your co-operation will be a great help to him.—EDITOR.)

She's Only Kidding

Editor, WONDER STORIES:

Can it be true? I am bowed down with my grief. It tears at my heartstrings. My fine Spanish castles come tumbling down—with dinosaurs trampling about their ruins. And, oh, boy! am I mad? Why ask?

Yes, I said dinosaurs. Bronto-auruses (?) and archæopteryxes, too. Although I'll admit that the archæ—I mean the latter—aren't exactly trampling. Nevertheless, they're there. And so I'm on the verge of tears.

You see, through Paul's fairly acceptable efforts of the past few months, I had almost come to expect (eventually of course) an artistic cover from him. And then he slapped me in the face with that—well, I call it a bizarrely dyed dishrag—on the November issue of my beloved WONDER STORIES.

It's particularly deplorable because the stories it covered were so simply magnificent.

"Valley of Dreams" and "The Reader Speaks" are awarded a gold star and a silver star, respectively. How does Mr. Weinbaum manage to do it? Never mind trying to answer. I shouldn't even have asked that poser. "The Odyssey" and "The Valley" have managed to be extremely, supremely swell. Therefore, would it be too much to request of him to make it a trilogy?

Hoy Ping Pong is valuable. Make him come out from under that alias and write a story. Something on the line of the Tyne stories. By the way, there ought to be another one of them soon. What about it?

I haven't even read "Dawn to Dusk." I don't need to award it a No. 1. But I will, don't worry. The two other stories I rate as No. 1's are "Twenty-Five Centuries Late" and "One Prehistoric Night."

The next in my estimation are "The Control Drug" (fascinating idea) and "The Growth Promoter."

Then, as No. 3's: "Omega" and "The Martian Cry." All in all, it would be an issue worthy of what literary gods there may be, if it weren't for the cover and "The Fall of the Eiffel Tower." If!

And the reason I don't like the latter is certainly not because I am racially narrow-minded. If I were, I would be forced to forego many of my closest friends. I think it's because they lack the free and easy conversations and concepts, the punch and vigor of an American-born and bred story. For instance: "Druso" could not begin to compare with "The Exile of the Skies." Man, what a story that was!

I have already written six times as much as you want me to, I reckon, and feel—I'm not half through. (Did I hear you groan?)

Okay, then, I'll say good-bye and best of luck to both you and the LEAGUE.

By the way, I'll join soon, maybe. Just by the way of toning down the first chapter of this book, I want to say that Paul's drawing for "Dawn to Dusk" is actually equal to Winter's for "Twenty-Five Centuries Late." Neither one was so good in the rest of their work.

Well, all right. If you're going to be insistent about this little matter of my farewell—Good-bye!

VIRGINIA KIDD,
Catonsville, Md.

(Please excuse us for the rather clumsy pun in the caption to your letter, but we hope that's how you feel about Paul's work. Peculiar, but you thought Paul's best illustration was for "Dawn to Dusk," and you do not like his work as a rule, while Jack Darrow, who is a veteran Paulian, thought it to be one of his weak moments. The opposite sexes must have contrasting opinions, though, we suppose.)

What a picture!—dinosaurs trampling down Spanish castles! We hope you have very few of those nightmares in the future.

We are sure that Paul did not mean to slap a young lady in the face with his November cover; he is a perfect gentleman and generally well-behaved. It is also lamentable that he has you on the verge of tears. We had better not let him read your letter, or he will be that way too. We don't want to cast a Paul all over the place!—EDITOR.)

Appreciation from Abroad

Editor, WONDER STORIES:

I think it is high time I wrote and told you what I think of the old mag. I have been reading it for nearly six years, and it has never been so good as it is now and that's something. The reason for my first epistle is that excellent story-serial, "Exile of the Skies" by Richard Vaughan. I haven't read anything as good since Hanstein's "Utopia."

I must also congratulate you on your latest list of authors, especially Laurence Manning, but what's happened to Clark Ashton Smith? Your mag never used to be complete without one of his stories in every other issue. As for my liking for any particular brand of stories, I eat 'em all.

J. GILBERT,
London, England.

("The Exile of the Skies" by Richard Vaughan, printed last year, was acclaimed one of the best novels we ever published. What do you think of Hanstein's new serial, "The Hidden Colony"?)

We are glad that you "eat" all of our stories. We try to balance the diet with not too much appetizer, entree, or dessert—or nuts!—EDITOR.)

Those Were the Days!

Editor, WONDER STORIES:

I received my SCIENCE FICTION LEAGUE membership certificate and badge a week or two ago and I wish to thank you most heartily. The badge is quite smart and very appropriate, and I think that I am the only member of the S.F.L. in Bradford or at least the first.

I have just finished the July number and I think it is quite good. I am afraid, however, that I didn't think much of "Druso," not that it's a bad story, but, somehow, I don't seem to care for it. Still, the other stories made up for my disappointment. "The Martian Odyssey" especially. I hope you print a sequel; it is worth it. The cover is good, and why not?—Paul drew it. I have by my side, as I write this letter, several of the 1930 issues, and it is quite easy to see that the mag has grown better, much as some of your carping, pessimistic critics "yab" to the contrary. Why, a single glance through the magazines show you that! Such outworn stories as "The Sarrasmo Monster" and "The Synthetic Men" strew their pages. There are, however, one or two good stories amongst them, such as "In the Spacesphere" by Cloukey, which was a "top-holer," to use an English phrase. "Utopia Island," too, is another gem of a story. I was pleased to read the second part of "The Return from Jupiter," for although I haven't read the first part, I distinctly remember "The Flight from Jupiter" as one of the first stories I read. Looking through the Summer, 1930, Quarterly, what do I see but the sequel to that wonder-

ful story "The Moon Conquerors," re "The War of the Planets" by Gavain Edwards. I remember reading "The Moon Conquerors." It was the first story in "our" mag that I ever read. I was only eleven years old at the time and the story seemed to me to be wonderful. It was certainly unique, for though I had read Wells' "The First Men in the Moon" and several other science-fiction stories, such as I could obtain, this was the first time I had ever obtained a magazine devoted to this particular brand of fiction. I bought the magazine (a quarterly, it was) at Woolworth's, in Southampton, for threepence, a princely sum of money to me in those days! My bosom friend, a chap named Thomas Green (may he still read your wonderful mag!) introduced me to the wonders to be obtained through reading WONDER STORIES, and if you have a member of your club (the S.F.L., I mean) named T. Green, please put me in touch with him, will you? Ha!—those were the days, when every story and plot was new, when I hunted high and low for copies of the magazines, which were harder to find than the preterbital needle in a haystack; in fact, it is only just lately that I have been able to find a fellow reader who has been so kind as to lend me some of his collection of the stff. mags that he has. To conclude this verbose and almost unintelligible epistle, I just want to say that the mag is fine, the authors are fine, the illustrations are fine, and last, but not least, the S.F.L. is fine.

ALBERT GRIFFITHS,
Bradford, England.

(We believe that you are the first member of the LEAGUE in Bradford. We do not have an English reader-member by the name of T. Green. We hope he will join.)

The story you refer to, to which "The Return from Jupiter" was the sequel, was called "The Rescue from Jupiter," and not "The Flight from Jupiter," which story appeared in the February and March, 1930 issues of SCIENCE WONDER STORIES, our ancestor. "The Moon Conquerors" and "The War of the Planets" were written by R. H. Romans, not Gavain Edwards.

We're glad to see that you find everything just fine!
—EDITOR.)

He's Got What It Takes

Editor, WONDER STORIES:

Boy, oh, boy! Has Stanley G. Weinbaum got what it takes to be a swell author? This sequel is just as good, if not better, than the original. And believe you me, that's saying plenty; for the love of science-fiction, Mr. Weinbaum would have another sequel. It ended as though there would be another one, so let's have it. You sure have the Art of Description down to a letter, and no fooling.

"One Prehistoric Night" was another good story of the prehistoric earth. And by a new author, to me at least. The cover for this story is one of Paul's better works.

The concluding installment of "The Fall of the Eiffel Tower" ends a fairly good French presentation. Not as good as the German novel by Ottfried von Hanstein, "In the Year 8000." I have fond memories of this story.

The first part of "Dawn to Dusk" begins nicely. I hope it's as good as Mr. Binder's previous tales.

"Twenty-Five Centuries Late" is a good story of the future of the earth.

The short-short was a headache to me. I'm waiting anxiously for Dr. Keller's "The Living Machine," and also for a larger WONDER STORIES.

OLON F. WINGINS,
Denver, Colo.

(We hope that Stanley G. Weinbaum will see your letter and other pleas in these columns for another sequel to his "Twel" stories. We believe, like you, that it could well stand another, and we hope that he gets the inspiration.)

We are sorry that you found a headache in the issue in the form of the short-short, and are glad that it was a short one—the headache, not the story.—EDITOR.)

Keller's Local Color

Editor, WONDER STORIES:

I want to compliment you on your November issue of WONDER STORIES.

"The Control Drug" was well written and suggested to my mind a story that could be written about a harmless drug that acted only on the good emotions of a man.

The greatest story to my mind that you have published is "The Conquerors." I recently spent two months near Reelford Lake and the local color of that wonderful story was nearly perfect.

A. T. SMITH,
Lexington, Tenn.

(Though Dr. Keller does not use the high-sounding words found in the works of so many authors, there is something about his inimitable style that is fascinating.—EDITOR.)

Chalk Up One for Us

Editor, WONDER STORIES:

This letter has been written in answer to, or rather, as a comment upon Mr. Wollheim's extraordinary letter in the September, 1934 issue of WONDER STORIES.

I will attempt to deal with the various points as Mr. Wollheim raises them.

Firstly, the illustrations, beginning with the cover design. The criticism of the latter is an exaggeration. What it boils down to is that more extra-terrestrial scenes and beings should be depicted on the cover. This has nothing to do with Mr. Paul's ability as a cover designer.

I will here include the inner illustrations. The trouble about these arises from the fact that the present paper used in WONDER STORIES does not appear to take the ink very well. This results in Mr. Paul's very fine line work "blacking over." Might I point out that his drawings also "black over" very badly, and that owing to this natural fault it would be advisable if Mr. Paul resorted more to his line shadings, at which he is excellent, and the results of which are as pleasing as the "splatter." (I think this is called "stippling"—am I right?) That is all, I think, for the illustrations.

The "sickening" drawing above the date line, Mr. Wollheim, is allegorical and one should study the idea behind it, and not criticize too much the external representation.

The continual references in Mr. Wollheim's letter to other magazines, in that they are regarded in the light of examples to WONDER STORIES, are in bad taste. Besides which, WONDER STORIES is quite capable of standing on its own feet, and proclaiming its own policy, without being told to "follow-any-leader," and become a carbon copy of another magazine. The make-up and page lay-out of WONDER STORIES is distinctive, and characterizes this fine magazine to the full.

Incidentally, Mr. Wollheim, WONDER STORIES is not competing in a "word-space" narration, but is endeavoring to place before its readers the best in science-fiction, not the most.

Now for the "criticism" of the stories. Well, Mr. Wollheim's remarkable reason why he refuses to read "Druso" reveals how much Mr. Wollheim's valuable criticism is worth. My advice is to read the story and enjoy it, and not to allow personal prejudices to bias the criticism.

If Mr. Wollheim is the author of "The Man from Ariel" then I do not consider his ability as an author sufficient to warrant his rather high-handed criticism of other authors or their stories. Further, Mr. Wollheim himself is not original in his story.

Mr. Wollheim's last ten lines stand alone. No comment is made upon them. Perhaps because no comment could do justice to the writer's feelings.

DONOVAN J. FOSTER,
Hereford, England.

(We are glad to present letters concerning Mr. Wollheim's criticisms of WONDER STORIES, whether they are on our side or his—though the latter type are quite scarce. We have come across many interesting things in these letters which should help both Mr. Wollheim and WONDER STORIES in the future.—EDITOR.)

Our Atmosphere of Science

Editor, WONDER STORIES:

I have been reading your magazine each month since June. I was not very complimentary in my last letter, which I wrote upon reading the June issue. Since then, however, I have come to believe that your publication of that month was all in all a poor representation of the usual quality of your magazine. Although I am not of the rabid specie of science-fictionists, I must confess that there has been a great deal to catch my interest in WONDER STORIES of late. Perhaps you would like to know just what it is about your magazine

that so painlessly bleeds me of twenty-five coins of the realm each month.

To begin with, it is not the cover. Paul is undoubtedly, in the astute blending and placement of color (as witness the lifelike transparency of the flora on the September cover), in a class by himself, but his a-little-overdone masterpieces lean just a trifle too far on the noisy side for comfort. Don't, however, think that I have a complaint against your covers, for I fully realize the capacity such pictures have for grasping certain types of buyers by the scruff.

Neither is it your "greater number of words." Counting the words in one's favorite magazine would afford an excellent pastime for a life in the penitentiary, but holds little appeal for me.

What appealed to me on my first glance at a *WONDER STORIES* cover page was the atmosphere of real science which pervaded the contents—the editorial by Gernsback; the science questionnaire; two scientific articles; science questions and answers. Here, I thought, was the background for a real science-fiction magazine. And to relate the stories of that month (June) did not bear out my anticipation. One redeeming feature, nevertheless, was Mr. Hornig's "Ode to Arrhenius," which was a gem.

The July issue of *WONDER STORIES* shows greater promise, mainly because of "A Martian Odyssey," a most refreshingly written tale. Everything about this story is original.

Weinbaum's style is different; his story is new; his science is accurate. He has made one mistake, however, which he must realize by this time. The "idea" behind "A Martian Odyssey" is big enough to supply material for a long serial, and a good one. The very simplicity of its presentation is its greatest charm. This is the stuff that whets the appetite of the reader. I wonder how many readers read and digested the philosophy proffered as an epilogue to "Druso"? This little piece added an air of distinction to the magazine that could very easily offset any number of mediocre stories. Even the letters seem to be better in July. I enjoyed particularly the massive of Aidan Boyak of England, because his introduction and reaction to science-fiction are so much like my own. The fact that he is a poet is also a score in his favor. Particularly delightful was the letter of Miss Kidd, and the editor's reply was just as clever.

Festus Pragnell makes a bid for recognition with "A Trip [Visit—excuse me] to Venus" in the August *WONDER*; well-handled, with some excellent character studies. "The Return of Tyme" was very entertaining.

September was a banner issue for *WONDER STORIES*. Above all is "The Men From Beyond," in a stirring and entirely new (new to me) theme. If this is a fair sample of John Beynon Harris, let's have more! "The Fall of the Eiffel Tower" is above the average. "The Living Galaxy" is engrossing and thought-provoking in spite of (or perhaps because of) its super-super setting. Poem by Eshbach—good. "The Tree of Evil"—fair.

The October issue is notable for two things: "The Brain of Ali Kahn," and part two of "The Fall of the Eiffel Tower." Eshbach's story is just what I have been looking for in science-fiction. Suggestion; auto-suggestion; hetero-suggestion; those afford unlimited possibilities to the science-fiction writer, yet Eshbach is the first in the time I have been reading *WONDER* to put any of them into practical use. Here's a bouquet to a great piece of writing! The second installment of de Richter's novel is a revelation in smooth, flawless technique. Here is an author who knows what he is about. The description of the fall of the tower and the general atmosphere before and after this event was starkly, movingly realistic. It could hardly have been better treated. In the letter department, Mr. Leonard's exhaustive discussion of Paul's artistry is interesting, to say the least. Miss Kidd again pops up, revealing her age and a brilliant vocabulary. Virginia, if you're not a writer, you should be!

In the latest, the November issue of *WONDER*, "Dawn to Dusk" promises a vastly improved Eando Binder. "The Control Drug" is simply grand. (When I say that, I am thinking of the stark characterizations which Benson Herbert has achieved.) This month's issue is so good on the whole that I am merely taking the stories and features just as they appear. "Valley of Dreams" is easily equal to the "Odyssey." If Weinbaum's former suggested a sequel, this one fairly shrieks for one! Again this sly craftsman's casual simplicity has all the upper hand with us readers. Come, Stanley G., a sequel of, say, novelette proportions should be capable of ridding your system of everything you know about Twain and his people

and their history. How say you? Mr. Editor, please never leave poetry entirely out of the magazine. The two poems this month, "Omegas," by a newcomer (to me), Derleth, and "The Martian Cry," another feather in the cap of L. A. Eshbach, do a great deal toward raising us above the pulp class. Both these writers have contributed something of real literary value. "One Prehistoric Night"—a great idea, but the writer's style is a bit faltering in places. He's worth watching, though. "The Growth Promoter"—O.K. "Twenty-five Centuries Late"—Mr. Bartel's narrative is pleasingly mature. He writes with the assurance of a veteran. I shall be watching with pleasurable anticipation for more of his work. "The Fall of the Eiffel Tower"—a fitting conclusion to an extraordinary novel; although it does not compete with the second part, which was a work of art.

There, Mr. Editor, I seem to have brought myself well up to date, and you must be very, very bored. What little criticizing I have actually done is of minor consequence. I shall leave the bulk of it to the cranks. Those stories which I did not like, I did not mention. My tastes are undoubtedly different from others, and what is displeasing to me will be liked by someone else, and vice versa; so why about my opinions from the housetops? I have noted with pleasure the steady improvement of *WONDER STORIES* since June. Congratulations, and thank you for your patience.

ROY A. SANDERS,
Oakmont, Pa.

(Such letters as these speak for themselves. No matter how much we claim that the magazine is constantly improving, letters from the readers are the best testimonials. —EDITOR.)

The B. I. S.

Editor, *WONDER STORIES*:

I would be obliged if you would publish this letter in your "Reader Speaks" columns for the information of your readers who may be interested.

I wish to inform you of the formation of the British Interplanetary Society at the address given. The Society is run on similar lines to the American, French, and German Societies. Its objects, to quote from the Constitution, are "the stimulation of public interest in the possibilities of interplanetary travel and the dissemination of knowledge concerning the problems which at present hinder the achievement of interplanetary travel. This involves the establishment of a central headquarters of the Society which will include a fully equipped laboratory for the use of those members engaged in active research."

Three classes of membership are open to individuals—Fellowship, Membership, and Associate Membership. Associate Membership is primarily for those under twenty-one years of age.

All members receive free copies of the journal of the Society which contains news and articles on the different aspects of interplanetary travel. Copies of the first two issues are enclosed, and I trust the Editor will find these interesting.

The membership of the Society includes such famous names as Professor A. M. Low, D. Sc., Herr Willy Ley, M. Robert Esnault-elterre, Herr Ing. Guido Pirquet, Dr. Jakob I. Perlmann, while the other members are of almost every nationality in the world.

The president, Mr. F. E. Cleator, F. R. S. A., is known to the readers of *WONDER STORIES* as the author of "Martian Mines," which appeared in the March, 1934, issue. The Society is also in close co-operation with the American Rocket (Interplanetary) Society.

Those interested can obtain any further information by writing to the Secretary at 46, Mill Lane, Old Swan, Liverpool, 13 England. I wish you all future success with *WONDER STORIES*.

LESLIE J. JOHNSON,
Hon. Secretary, B. I. S.,
Liverpool, England.

(We have watched the growth of the British Interplanetary Society with great interest and find their Journal an ambitious and instructive little book. It is co-operating with our American Society and we urge those who have a real interest in rockets to join this over-seas organization.—EDITOR.)

C. A. Smith is Best

Editor, *WONDER STORIES*:

Where is that sequel to Vaughan's "Exile of the Skies"? Such a dazzling opportunity for another serial of Knute Savary's interplanetary adventures should not go unheeded.

Now for a sporadic series of comments:

"Druso" was too long, dry, and "strung out." It would perhaps have been good if more condensed, but it does not compare with its predecessor, Williamson's "Xandulu," which, as Jack Darrow remarks in the June issue, reminds one of the "Moon Pool." Can't you dig up another of A. Merritt's incomparable masterpieces? None of your present authors can even compare with him, except perhaps Laurence Manning. Morrison F. Colladay's "Earthspot" was interesting and ingenious. "The Green Cloud of Space" was interesting, but resembled "Menace from Space." E. T. Spooks' "Traders in Treasures" was great. Most of that type from him. Kaye Raymond's "Into the Infinitesimal" had the same ancient plot of "Secret of the Microcosm." "An Atomic Adventure," etc., etc., ad nauseam, but was well written and interesting. John Pierce, B. S., your new author, promises well—"Adrift in the Void" was excellent. By the way—is he the John Pierce of Springfield, Vt., the amateur telescope maker?

It is unnecessary to praise Dr. Keller's "The Doorbell." Praise for his stories is, I suppose, taken for granted by the editors. Why have you discontinued H. S. Zerrin's "Passings of the Planets"? They were the only science poems I have ever read that were worth the space they took up.

Stanley G. Weinbaum made a hit with "A Martian Odyssey." But the best in the July number was Laurence Manning's Stranger Club yarn, "Voice of Atlantis." It was, to use the popular idiom, "swell." J. Harvey Haggard has been missing from the recent issues. Where is he? And Clark Ashton Smith; he is the best regular author W. S. has. For sheer unparalleled flights of pure imagination, he is incomparable. For example: remember his "Flight Into Super-Time" and "Eternal World"? They were the good old days when Time and Space were not even a tissue-paper wall to the super-scientific hero, and no one said a thing. Now, when some author even suggests such a thing, "The Reader Speaks" is deluged with Einsteinian mathematics, wave-mechanics, the four-dimensional continuum, etc. and everyone joins in on handing the author a wholesale raspberry.

Leaving the worthy editor to digest that, I make my last request. Give us a long story, complete in one issue, such as "The Vanguard to Neptune" or "Interplanetary Bridge." Of course those were quarterly yarns, but I think you could comfortably put them in the present small-size monthly issue.

GEORGE H. HERBIG,
Los Angeles, Calif.

(John Pierce, the author of "Adrift in the Void," is not the telescope of Vermont.

We have discontinued the use of poetry, for the most part, largely upon the requests of our readers. We do occasionally use a poem as a filler, but we no longer feature them.

Your comments are well thought out, it is easy to see, and you certainly know what you want. We will do what we can to please you.—EDITOR.)

"WONDER 'WAS LOUSY"

Editor, WONDER STORIES:

This is my first letter to WONDER STORIES, although several of my missives have appeared in other science-fiction magazines. Why this neglect of W. S.? Well, to be frank, WONDER STORIES was lousy—notice I say "was." Now, since the formation of the SFL, the improvement is truly amazing. It even seems that authors whose works were little better than mediocre before, have suddenly become inspired to produce tales of surpassing brilliance; for instance, witness the abrupt change for the better in Laurence Manning, in my opinion, a mere hack writer. His "Caverns of Horror" was so far beyond any of its predecessors as to make them appear ridiculous.

Let's have more of this unique character, "Tyme." Hulse and Fedor have co-created a humorous style that is utterly different—and I mean different—from anything I ever read to date. "The Return of Tyme" had me in stitches from beginning to end.

The proposed reprint annual ought to be good; that is, if "The Time Stream" is included between its covers. I get on my knees before you in supplication: I beg of you to pull-lease please, reprint "The Blind Spot"—if not in the annual, then as a separate booklet. I am sure that the vast majority of your readers would gladly pay one dollar (\$1.00) for this masterpiece—this classic—of fantastic literature. Such a retail price should certainly repay you for any ex-

pense acquired in securing the copyright owner's permission. Please think this over.

Paul's cover illustration this month was especially juicy; other stf, artists would do well to study this genius' distinctive style.

The serial by Eando Binder, "Enslaved Brains," continues good—at least, as good as anything Binder ever did.

ALVIN EARL PERRY,
Rockdale, Texas.

(Welcome to our columns, Mr. Perry; we hope to receive many more letters from you as interesting as this one.)

We will consider reprinting "The Blind Spot," if it is possible to secure magazine reprint rights. We have received so many requests for this classic lately that we can no longer doubt the fact that science-fiction fans really want it.—EDITOR.)

Ten Good Stories

Editor, WONDER STORIES:

I want to be one of the many to congratulate you on the success of your magazines. You probably receive many letters of this type but I really mean it. Now may I ask a favor of you, I unfortunately happen to be a new reader; every month I read in "The Reader Speaks" about these people who want reprints of certain stories they thought were wonderful like "Exiles of the Moon," "The Time Stream," and others. Here is the favor: would you please list ten or so of the best stories (science-fiction stories) you have ever published as I would like to purchase them.

Your July issue was a wow. "Druso" was one of the best stories published. August looks swell although I haven't read it, but now just one suggestion. Why not change the colors on the cover to black or some dark color; red, yellow, blue, or green gets monotonous. I'll close with best wishes for future success.

MISS SUSAN BECKETT,
Santa Monica, Calif.

(We can list for you ten of the most popular stories we have printed, according to the opinions of our readers:

1. The Human Termites by David H. Keller, M.D.
 2. The City of the Living Dead by Manning and Pratt.
 3. The Exile of the Skies by Richard Vaughan.
 4. The Brood of Helios by John Bertin.
 5. The Time Stream by John Taine.
 6. The Hidden World by Edmond Hamilton.
 7. The City of Singing Flame by Clark Ashton Smith.
 8. Exiles of the Moon by Schachner and Zagat.
 9. Into Plutonian Depths by Stanton A. Coblenz.
 10. Utopia Island by Otrif von Hnslein.
- If you wish to obtain these stories, you can do so through the SCIENCE FICTION SWAP COLUMN in this issue.—EDITOR.)

About Our Covers

Editor, WONDER STORIES:

In regards to the August issue:

The cover—Phooey! (Yeh, I know you are getting tired of me hitting your covers, but I am getting tired of covers that demand hitting.) It seems that you alternate. A good cover one month and a bad one the next.

The stories—haven't read 'em yet. However, I don't suppose they will need kicking, knowing your strict regulations on "original" stories.

"The Reader Speaks" Ah! Now I can say something. First: Attention Mr. Robt. J. Binder I, II, and III of Milwaukee. I am greatly interested in your statement concerning beer. How about being a good pal and sending me a couple sample barrels? Then I will tell W.S. readers how good it is, and you will get a lot more customers.

Tom Daniel: Thanks for giving me backing in regards to covers. Why don't you and I get together and put out our own mag, with covers to suit ourselves? I will paint a cover that will put Paul to shame! (Yes, and probably myself, too!)

So, dear Editor, any time you need a new artist, don't hesitate to call on me. (Don't send a telegram—the warden doesn't allow telegrams to inmates, for fear they contain secret codes—send it by grapevine, the sure way!)

BOB TUCKER,
Bloomington, Ill.

(We're glad that at least half of our covers please you. We of course know that they can't please every-

one, and remember that those covers you don't like are great favorites with others of our readers.—**EDITOR.)**

Stf. and Weird Tales

Editor, WONDER STORIES:

I am what you might call an old-timer. I have kept an appreciative eye upon you and your publications about seven years, from the time you brought science-fiction to a public tired of cut-and-dried fiction to the present in which the people are more or less science-fiction conscious. The film producers both in America and in Europe are becoming conscious of this and are now putting out science-fiction films. The general attitude has also changed; men and women buy science-fiction magazines proudly and openly and show them to their friends, whereas, they used to grab a magazine, slip the price to the clerk with downcast eyes and then rush off to a corner to devour with avid eyes the wonders of science.

I want to say this much: I have seen your publications prosper and grow better and better every year. Your radio magazines were my textbooks, so to speak; I built quite a few radios and other apparatus from them; your science and science-fiction magazines were a great help to me in my science courses at school.

I will not criticize the science in your stories: I realize that at times mistakes will slip through. At first when you went back to the small size I was disappointed, but later I saw the other side of the question. I have nothing but praise for your stories and I congratulate you in that you have kept your science-fiction free of and unadulterated with weird and other fiction. Science-fiction and weird fiction both have a mighty place in fiction, the first pioneered by Jules Verne and the second by the great Edgar Allen Poe. Some people confuse the two types, thinking they are the same when they should be as different as tragedy is from comedy.

About the authors, where has Clark Ashton Smith been hiding himself? I hope you get him into action soon. He has a marvelous vocabulary and he uses it like a master. Also what happened to L. A. Eschbach? He truly wrote "The Time Conqueror" like a master but did not receive the acclaim he deserved. I rank "The Time Conqueror" as a masterpiece along with "The Moon Pool," "The Skylark of Space," "The Human Termites," "The Man Who Awoke," and "The Exile of the Skies." A very good test for a story is its ability to stand re-reading, giving even more enjoyment each time. Each of the above oozes with this quality. "The Time Conqueror" was the most plausible and most engrossing time story I have ever had the pleasure of reading, not even excepting "The Man Who Awoke."

I think the reprint annual you are planning will be a big boost to science-fiction, for it will enable many enthusiasts to read the valuable masterpieces of the past, which they could not otherwise obtain.

By knowing the past we may plot the future, so I am sure you and your projects will prosper.

RICHARD P. ALLEN,
Chanute, Kansas.

(We will concede that science-fiction and weird fiction are two distinct types of literature, but would not go so far as to say that they are as different as tragedy and comedy. Together the two fictions make up what is known as "fantasy"—that is, both are fantastic and excite the imagination. Weird fiction, however, works more on the emotions, while science-fiction gives more food for thought.)

L. A. Eschbach is still writing; witness his recent "The Brain of Ali Kahn" in our pages.—**EDITOR.)**

"Serious Laughter"

Editor, WONDER STORIES:

I've just laid aside the August issue of "our" mag. It was excellent; I can truthfully say, the best in over a year. With the exception of "Dimensional Fate," which was fair, the stories were worthy of limitless praise. One might say, as things appear so far, that "Morituri te salutem" fits Mr. Burkholder well—very well indeed. Where was the stf. plot? The climax was un-stf., but the yarn itself was capably written. Next, Mr. Pragnell's work. This smacks of 1929 WONDER STORIES, and can be classified, together with "Enslaved Brains," as well-nigh perfect—perfect in style; perfect in plot; perfect in management. Both the "Tyne" stories and the short-short were glorious,

the latter containing breath-taking interest and profoundly human, the former full of "serious" laughter (ever hear of it?) and was the best of its form ever published. Please, you creators of "Tyne," more and more! "The Men from Gayin" was none too good; its plot was fine, but childishly managed—the author tried to force his impressions upon us.

Ah-h-h! Your editorial, Mr. Editor! Ashamed to thrust my simple, blundering words before your eyes, I'll evade commenting upon that. Suffice it to say that the editorial should take the place of the cover design, otherwise all may see!

Begging your pardon, dear readers, I have kept my eyes upon the letters, and would much rather comment upon them than the stories, for yarns are as will be, always. Can I forgive the person who, listing the best stories, excipied (or neglected to remember) Hilliard's? No, I cannot! Have you forgotten "The Space Coffin," "Death from the Stars," "Island of the Giants," "Green Torture," "The Martian," and others? Where is A. Rowley Hilliard? Where? I challenge!

Mr. Robt. Vickers, I don't like the way you say, "One of the best." Its euphonious effect is abominable, inexpressibly untutored. And you, Mr. Joseph Hatch, I second your motion. I want a mag for the readers, although the Editor will term it impracticable, so let it pass.

But, Ed., you're publishing stories for the readers of W.S.—readers who have stuck with her for years, wouldn't leave her even if she were terrible—so why not call a vote on it, issue a tentative publication for us, of the sort Mr. Hatch proposes? There are innumerable contributors whose "offerings" have been rejected who would buy the mag to see who were the lucky ones, or to see the type of literature that was accepted; and don't overlook the myriad who would purchase it out of interested curiosity! Anyway, most of the rejected stories just couldn't be worse than some of those published by what I call "a name." [Oh, yeah!—**EDITOR.**] It would, also, bring your readers together in a closer bond and make the interests of W.S. their own. You cannot lose by this experiment. Come on, let's see a revival of the old voting spirit!

In re the fellow who wants his money's worth, don't, O Sagacious One, O Incomprehensible Editor, give us what we pay for; similarly, as your Terrestrial Omniscience can perceive, don't compel us to pay for what we get. I, for one, haven't that much per month.

Now, my hatting is done in "The Reader Speaks"; I won't start anything—yet. If your feeble Earthly brain leaves you in doubt about anything, direct it to me in the form of a challenge—I'll see! And in case this letter gets into print, let me say for you (Attend—I know the future): "Morituri te salutamus!"

EOE (NON ALTER),
Bridgeport, Conn.

(Where is A. Rowley Hilliard? That's what we'd like to know. We haven't heard from him in a very long time. We can't publish an author's stories unless he is writing, you know.)

Regarding this magazine containing rejected stories, it would, of course, be sensible. It is perfectly evident that you haven't had the opportunity to read rejected science-fiction stories, especially those by the would-be authors. There are tortures that come only to editors, you know, and we wouldn't like to pass these on to our readers in the new magazine you propose. We are out to give you the best in science-fiction, and not the second best. A magazine wants to build a reputation, and surely one that printed stories no one else would take could not do that.

We like that phrase of yours, "don't compel us to pay for what we get." That leads us to believe that you are at least getting your quarter's worth each month in WONDER STORIES.—**EDITOR.)**

He Wants Sequels

Editor, WONDER STORIES:

The August cover was up to Paul's standard.

The Editorial I enjoyed greatly. "Dimensional Fate" was of high merit. I expect a sequel.

"A Visit to Venus" was food for thought. I liked this story immensely. Here again a sequel is needed.

"The Return of Tyne" was excellent. I think the "Tyne" series should be continued.

"The Sense Twister" had a twist at the end. Stories like it are always welcome.

"Men from Gayin" was very good. It possessed a curious atmosphere that I liked. But there is a catch as in all time-traveling stories. "The Men from Gayin" must have studied history and therefore known that their venture would be a failure. Why did they go into the past? Some may say that they had to go, regardless of what they knew, or else they would be changing history already made. Well, the only way to settle that is to build a time machine. However it would be a novel idea if they did change the past.

"Enslaved Brains" appears to be something well worth waiting for.

Best wishes for the continued success of the SCIENCE FICTION LEAGUE.

RAYMOND PERL MARIELLA,
Member No. 13, S.F.L.,
Philadelphia, Penn.

(You seem to want plenty of sequels. We'll see what we can do—or rather, what our authors can do, for they are the ones that write the sequels. Many times these sequels do not merit publication, and therefore we must turn them back to the authors. We demand that sequels be at least as good as the original stories.

Changing the past has been done before in science-fiction, but we can't see the logic in it.—EDITOR.)

We Agree!

Editor, WONDER STORIES:

I have been a silent reader ever since WONDER STORIES first put an appearance on the news-stands, and this is the first time that I have had the audacity of writing to you. I always found it a pleasure to read our mag, as some have chosen to call it, and each month I took forward anxiously to consume its new contents with relish.

Although I have found a few stories that were not up to the standard of regularity, I still had the confidence that such things do happen in the best of magazines. I am satisfied with it, and the stories are as one sees them. Every person has a different taste, for different types of stories, and while one of them is receiving praise, the other, brick-bats.

And as you have commented upon a letter of David Bowen in the July issue, it is helpful to you if pointed out to a certain story with a fault. But the suggestion of Joseph Hatch, also in the July number, is not at all good. His idea of publishing a small magazine with inferior stories does not click with me, and for that matter, with any true science-fiction fan.

If a writer must write a story, let him write one that will be considered a credit to his abilities as a writer, not only by the editor, but by the public as well. What's the use of writing inferior stories, or giving such false impressions to the new writers? If an author sells a good story, he will get more ambition to outdo his former efforts, and give you still better results.

That is the trouble with many of these new writers. They want to be considered by the editor, and public, as great, and that impression upon their minds spoils many a good effort that would probably be considered fair. They probably strike upon an idea, and think that it would make a wonderful story. So, they sit down and busily write what they consider good material, and feel disgusted when it is returned.

And now, coming to the point, the SCIENCE FICTION LEAGUE was organized, and of which I am proud to be a member, to promote interest in science-fiction to the people of the world, and if such a magazine would appear on the market, it would not only injure the principles of the LEAGUE, but hinder its wonderful progress, and people would lose faith in its purpose.

I am for WONDER STORIES, tooth and nail, and for the wonderful educational properties of its contents.

Every fan has his favorites, and I am no exception. Some of my favorite authors are: Clark Ashton Smith; R. F. Stardi; Jack Williamson; Kaye Raymond; David H. Keller; Laurence Manning; and of course, Sidney Patzer and Richard Vaughan.

It may interest some of the fans that the story "After Worlds Collide," by Edwin Balmer and Philip Wylie, appeared in its entirety in the *Cleveland Plain Dealer* of May 5th. And like a few of the fans suggested, I also would like to see "The Lunar Consul" made into a scientific film.

Thus I finish what was most upon my conscience, and so with the best wishes for the furtherance of the prophetic fiction our mag bears, I shall remain its staunch supporter, in alliance with the SCIENCE FICTION LEAGUE.

LEO ROOMER,
Buffalo, N. Y.

(Your letter is certainly well thought out. We agree with you on every point, especially concerning the proposed magazine of rejected stories, suggested by Mr. Hatch.

It is our opinion that an author cannot judge his own work, at least, not until he has had many, many stories in print. Naturally he is going to like his own work and cannot understand why others don't rave about it. Perhaps it is peculiar, but the amateurs are the ones that praise their own work and the really good authors speak of their masterful efforts casually. One would-be author in particular, with every submission, insures us that "it is by far my best work" and he has never had anything published so far. If his best work cannot be accepted, we'd like to see some of his worst—or rather, we're glad that we didn't see it.—EDITOR.)

Our "Blurbs"

Editor, WONDER STORIES:

Starting from the first of the August issue of WONDER STORIES the cover is very good. Your editorial is, as usual, excellent. However I disagree on several points that you stress, particularly the last paragraph. You say that nothing worth while is known. Much that is worth while is known and much will be discovered in the near future that is worth while. What is known is worth the while of all our greatest educators who teach us most of what we know. And if nothing were known, something will soon be, for discontent is a sharp spur. However, your editorial made me think, so it has served its purpose.

The stories were, for the most part, good. "The Return of Tyne" was excellent. But the other burlesque on science-fiction, namely "The Sense Twister," was very poor. A story like that reads as if it were written by a cut-and-dried rule. "Enslaved Brains" gets better in every installment.

I wonder who writes those blurbs at the beginning of every story. Whoever he is, he should be a little more sparing in the use of his adjectives. Every story can't be the superlative and for you to say that WONDER STORIES is the best in science-fiction is overdoing it. No science-fiction magazine has the best stories, for the same authors write for the different magazines. Of course the magazine with the most money can buy most of the best stories, but not all, for it cannot handle too many. So the other magazines also get some of the best.

I am much in favor of a reprint annual and I wonder why you can't start your quarterly again. If your figures show that your sales have increased since the return of the small size, maybe it wouldn't break you if you started a quarterly. I suppose, though, that you wish to hold onto the profits. Quarterlies are expensive additions, are they not? In this case the public be damned?

THE SCIENCE FICTION LEAGUE is holding its own so far as I can see. Down here there is a great dearth of science-fiction fans so I am going to round up some if I have to use force.

Why not, each month, publish the number of S.F.L. members up to date? Or are they too few to warrant doing that? The great majority of science-fiction readers are apathetic toward the LEAGUE but enthusiasm on the part of a few will do wonders toward recruiting many.

G. NEWAY CROWELL,
Monroe, N. C.

(In Mr. Gernsback's editorial, when he said "nothing worth while is known," he meant that no one can answer any basic question. For instance, you can ask the greatest brain surgeon in the world, "How does the brain work?" He can beat around the bush with many technical phrases, but he cannot tell you, and he does not know. How the brain works! We know none of the whys and wherefores of the universe or its forces. We can perceive effect, of course, and result, but the cause has always remained a mystery. We have harnessed electricity, but we don't know what it is. Of course, if the human race exists long enough, these mysteries will be solved in time.

We can't help using superlatives in the blurbs of the stories. We believe that each story we accept is superlative. For every one we take, we reject at least one hundred, and you can bet that the one is good. Some of the stories we reject appear in other magazines.

You are wrong about the same authors writing for all the science-fiction magazines. It is true that many

authors have had stories in all of them, but each one has its special group. Many of our writers write for **WONDER STORIES** exclusively.—**EDITOR.**)

A New SFL Member

Editor, WONDER STORIES:

At last I have received my certificate of membership and, I believe, I am a full-fledged member of **THE SCIENCE FICTION LEAGUE**. I am happy to consider myself a part, however small, of such an interesting and unusual organization, and I shall do my best to help it and further interest in it. I am deeply intrigued by the possibilities of science-fiction, and am slowly progressing with my first literary attempt, which is a story of this type.

I sent for practically all SFL "accessories," including letterheads, envelopes, seals, and a button.

For many years I have been a reader of all three science-fiction magazines, but yours far surpasses the others in all ways. The stories are excellent and the several departments are interesting and informative. The **LEAGUE** and the "Swap Column" are invaluable additions.

Now a few gentle suggestions. How about a few reprints of some of the excellent stories which were published some time ago? For instance, I think "The Infinite Brain," which appeared in the old **SCIENCE WONDER STORIES**, could easily bear repetition. But take advantage of the bad example set by one competitor (?) and do not print out-of-date stories such as the works of Poe, Verne, etc.

The present size is perfect—it is more convenient to carry and is easier to bind. And in Paul you have the king of all illustrators.

In short—**WONDER STORIES** is just about all that can be desired. Keep up the good work.

RICHAUD L. AKERS,
Member No. 155, SFL,
Washington, D. C.

(We thank you for "them kind words," Mr. Akers, and welcome you into the **SCIENCE FICTION LEAGUE**. **WONDER STORIES** and the **LEAGUE** are headed for a goal never before reached by science-fiction.

"The Infinite Brain" will be one of our first reprints.—**EDITOR.**)

"Woe Is Me"

Editor, WONDER STORIES:

Woe is me. I said Paul's cover was superb. He gets better, and I call it excellent. Still better and I call it excellent—plus, but for heaven's sake, if he keeps on improving, I am bound to run out of adjectives! The July **WONDER STORIES** cover was about the best Paul has drawn yet!

Editorial exceedingly interesting.

"Enslaved Brains" promises to be something great.

"Voice of Atlantis" was excellent. Laurence Manning has a source of many plots, in the Stranger Club. More of this series.

"Martian Odyssey" was excellent. The story was exceedingly realistic and very humorous. I would like to meet that "Tweel" bird. Yes sir, we want a sequel.

"The Hair Raising Tale" was very good. The short stories are rare, but you seem able to get them.

"The Last Shrine" was excellent. This author has a unique manner of writing. His ideas are always original.

Haven't read "Druso" yet.

I feel like killing our postman. I sent out the **SCIENCE FICTION LEAGUE** blank as soon as I got it, yet am only member No. 18. I can imagine how No. 11 feels.

Looking back it seems that the issue on the whole was excellent. The new policy is showing results.

Keep forging ahead!

RAYMOND PEEL MARTELLA,
Philadelphia, Penn.

(As you say, Paul keeps on improving, and even the sky isn't the limit. Witness his interplanetary scenes.

There's no use of us saying any more about "A Martian Odyssey," except that Stanley G. Weinbaum's tale was one of the best in many a month—that's all there is to it.—**EDITOR.**)

Paul's Covers

Editor, WONDER STORIES:

I have just finished the August issue and I am very well pleased. When I say finished, I mean all except the serial, for I never read serials until all the installments are in.

There wasn't a single story that was not worth while. The least satisfactory in the issue was "The Men From Gayin." It was quite good, but just a bit cock-eyed and hackneyed.

"Dimensional Fate" was very well written and presented the most plausible theories and explanations of the fourth dimension that I have ever found. The explanation of the time-contraction theory was also very plain. I enjoyed it very much.

In spite of the fact that the story was good, Paul has turned around and made some mistakes in his drawing on the cover. He made one mistake the same on the June cover: i.e., in "Into the Infinitesimal" the adventurers land on the electron world and the nucleus of the atom appears as a sun. On the June cover, Paul has pictured this "sun" as a burnished, dull red globe. He has actually taken great care in shading in the high-lights. Inasmuch as the "sun" is a fiery globe, it could hardly be expected to show high-lights. In "Dimensional Fate" the author describes the scene in the fourth-dimensional world as "lit by a glaring blood red sun," but Paul promptly proceeds to put very pronounced high-lights on his sun.

Paul also has painted a shining aura about the sun, and I believe that no corona would be visible unless the atmosphere were entirely dustless. Of course, the author does not mention this; but it seems that Paul might have been a bit careful about assuming that this were so. Also, the author describes the surface of the fourth-dimensional world as "a barren mass of rocky crags," which hardly should lead Paul to draw the surface of the world in the crystalline form which he has used. He has made the "rocks" in that roughly regular form most easily seen in quartz, in its natural state. And, although rocks are known to be brilliantly colored, the colors would diffuse, and each rocky crag would not be of a pronouncedly different and thoroughly clear color. Monsieur Paul, the illustration on the August issue is positively ridiculous.

"A Visit to Venus" was highly imaginative and thoroughly blood-and-thunder; but it was full of surprises and very interesting. The ending was very well done in true story style.

The **SCIENCE FICTION LEAGUE** is trying to convince the world that science-fiction is literature and has a definite place in the world; but you will never convince it by printing such un-literary stories as the first two in the mag. They are exciting, and I enjoyed them, but literature? Bah!

PHILIP ALLISON TURNER,
Hiram, Ohio.

(Artistic liberties prevent Paul from always sticking close to the author's descriptions in the stories, though every effort is made to follow them as closely as possible. The cover must be artistically balanced.—**EDITOR.**)

An Active SFL Member

Editor, WONDER STORIES:

Please accept my name as a volunteer director for Denver **SCIENCE FICTION LEAGUE** Chapter. I hope my name might be accepted.

"The Men from Gayin," "The Return of Tyne," and the short-story are the best in the number (July), in the order named. The second installment of the serial is coming along fine.

Paul's cover is not so hot, if you ask me. I would have thought that he could have picked a better scene than that to illustrate.

I hope that Dr. Keller's "The Tree of Evil" comes pretty soon. In the next issue, if possible.

OLON F. WIGGINS,
Denver, Colo.

(We are glad to submit your name as a director of a **LEAGUE** Chapter and hope that many members will join your branch. Thank you for your cooperation.

We are surprised that you didn't put "A Martian Odyssey" high up in your list of favorites in the July issue. Practically everyone else did.

Dr. Keller's "The Tree of Evil" appeared in our September issue.—**EDITOR.**)

(Continued on page 1015)

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THE READER SPEAKS

(Continued from page 1012)

Seeing Your Brain

Editor, WONDER STORIES:

Readers seem to like the other artists all right, but do complain about Paul's figures—men—don't they? Why don't you have special composite drawings; let Paul draw all the machinery, monsters, etc., leaving blanks where men are to appear, and then hand the drawings over to Lumen Winter to supply the human beings? But, no; that wouldn't suit me; because I like Paul 100 per cent. What a cover he has drawn for you for August! Rich, variegated; those crystal cube-spirals are really weird and beautiful, at least, to my eye.

That's a fine malignant monster Paul's done for "Dimensional Fate," too. Story's good.

Liked "Visit to Venus." Dealing with strange life-conditions on another planet, something like "A Martian Odyssey," in a way. Not quite so good, though of course Mr. Pragnell's story was not offered in competition. I really liked it very well on its own rights.

Good! "The Return of Tyme." Very good. I think the authors could have made the names of their characters—Nach Schatner, R. F. Strazle, Lawrence Banning, etc.—a little more humorous with small care. But it was a good serio-comedy ("Forrest Jackerman" will do for me, incidentally!). and I am only surprised you will run such stories. Personally, I like them and your "funnying around" attitude as evinced by the addenda to "Return of Tyme" by M.U.S. Fipa, H.O.B., W. S. "A little nonsense now and then is relished by the best of men." I take it we are not above relish; also, that stuf, readers are the best of men.

"Sense Twister" was a keen little story, swell worked out.

Didn't think "Men from Gaylin" so good. Liked first three and last seven paragraphs about best of all. An interesting illustration by Lumen Winter.

What a knockout! That's a keen sock-o, I think—the punch Paul gives the Futurian in part two, "Enslaved Brains," which is a good serial.

The necessary apparatus, in order to see your brain, according to an article in the March 25, 1934, "What's New in the Progress of Science," consists of a piece of black velvet cloth about two feet square, a dark room, and a candle.

Pin the cloth to the wall. Sit or stand with the eyes on a level with the center of the velvet, then hold the candle so that its flame is from four to six inches in front of and slightly below the tip of the nose. Raise the eyes to the upper edge of the velvet and move the candle back and forth transversely across the face, keeping it in such a position that the flickering flame makes a line parallel with the eyes.

This movement, it is explained, produces a counter-irritation of the retina; a rhythm of the optic nerve follows, accompanied by a reflex action of the brain. Hence a figure of the part of the brain resting against the skull in the back of the head is pictured on the retina and is apparently seen on the black velvet.

By careful practice, it is said, all the parts of one's brain can thus be viewed, if the trouble to perform the experiment will hnt be taken.

Those interested are warned that the period of observation should not exceed thirty seconds at one time on account of the possibility of straining the optic nerve.

FORREST J. ACKERMAN,
San Francisco, Calif.

(Artists don't like to draw composite drawings. They like to work alone and be able to sign their names on each piece of work and say "I did this!" Winter's men would certainly be out of place in Paul's backgrounds. If the entire drawing is not done in the same style, the illusion of reality vanishes.

We did not print your news article as a special filler simply because we don't believe it.—EDITOR.)

Assorted Dimensions

Editor, WONDER STORIES:

This letter is, among other things, to congratulate you on the publication of Laurence Manning's "The Living Galaxy." That story alone was certainly well worth the price of the magazine. Like most of Manning's stories, it was well written, thoroughly enjoy-

(Continued on page 1017)

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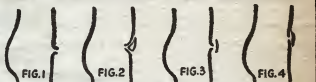


FIG. 1
Shows rupture before old-style truss was applied.

FIG. 2
Shows old-style truss in place. The walls of wound cannot come together. A cure is improbable.

FIG. 3
Shows rupture before Automatic Air Cushion is in place.

FIG. 4
Shows perfected invention in place. Note how edges are drawn together in normal position.

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THE READER SPEAKS

(Continued from page 1017)

I think I've demonstrated my point, though, that according to present theories it would be inconceivable to get outside of space by any maneuver, however intricate or complicated, in three dimensions (I wish Mr. Manning had elucidated a bit about the "three imploding curves, each of three dimensions," but as it is, they're just words. Once Bazon took a curve into a fourth dimension his problem would be automatically solved).

Then, once out of space, all direct contact with it would be lost. The travelers could not see the light from it as did Bazon and his party, unless the light traveled through a fourth dimension—and if that happened (and it would mean, by the way, a leakage of matter and energy from our universe), the light would not manifest itself to the travelers.

Turning to analogy again to illustrate the point, let's imagine that our two-dimensional adventurer has eventually succeeded in setting himself free of his universe and is cruising about in other planes. Any communication from his home-universe would have to reach him via a third dimension and would, it is almost certain (I could go into detail, I suppose, with theoretical exceptions, but this dissertation is already getting a bit unmanageable), strike him—or pass through him (he's so thin he's nonexistent anyhow in a three-dimensional sense) in some way that he would not recognize nor even directly feel it.

Well, there you are. I know what I'm talking about, but can anyone else figure out what I'm trying to say?

At any rate, it was a grand tale. The fact that it interested me (and I'll wager others as well) enough to make me want to contradict some of his statements proves its merit; for anything that clarifies thought—and there's nothing quite so effective in that direction as statements with which you violently disagree—is totally to the good.

I enjoy most of Mr. Manning's stories very much. His "Voyage of the Asteroid" and "The Wreck of the Asteroid" were just about the same of interplanetary fiction. A sequel was hinted at in the last paragraph or two of "The Wreck of the Asteroid." Let's have it, please. Also, the stories in "The Man Who Awoke" series were almost equally good.

Of the other stories in the September issue I have read so far only "The Man from Beyond," by John Beynon Harris, which was excellent in every way, and "The Tree of Evil" by David H. Keller, M. D. The latter isn't exactly what I'd choose for light or pleasurable reading. A story like that is all right once in a great while, I suppose, but I'm glad you don't feed us a steady diet of it.

Of all forms of science-fiction, I like interplanetary and interstellar stories best, where they are well worked out and with an eye toward science as well as dramatic values.

I hope you'll pardon the length of this letter. It's only once a year or so that I have the time and inclination to write to some such forum as this, so when it does happen, I've lots of steam to blow off.

By the way—in reading this letter over, I've found myself with rather a liking for our two-dimensional friend. Possibly a saga of his adventures might make an interesting yarn for a magazine such as this if I ever get time to write it.

FRANCES TERRELLS,
Los Angeles, Calif.

(You must remember that conceptions of the finite universe, the edge of space, etc., are all theories and they are not accepted by most scientists. Mr. Manning presented a rather new theory in his story, at variance with modern conceptions, but that is what WONDER STORIES is for—we want to bring out new theories, so long as they do not contradict known fact. Of course, they can contradict other theories, which are not known fact.)

We like your analogy of the two-dimensional being traveling around the sphere to a man traveling around the universe and returning to his starting point. It is very clear—in fact, a lot clearer than we have seen it propounded in the stories themselves. Authors mention the fact that a space-ship would have to travel in the fourth dimension to return to its starting point, but few bring out just how it can be done, as you do in your letter.—EDITOR.)

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340 Electric Building, Omaha, Nebraska.**

Good News for Members of the SCIENCE FICTION LEAGUE

THE following list of essentials has been prepared for members of the SCIENCE FICTION LEAGUE by the officers at Headquarters.

A FEW WORDS AS TO THE PURPOSE OF THE LEAGUE

The SCIENCE FICTION LEAGUE was founded in February, 1934. The Executive Directors are as follows:

Forrest J. Ackerman, Eando Binder, Jack Darrow, Edmund Hamilton, David H. Keller, M.D., F. Schuyler Miller, Clark Ashton Smith, and E. F. Starzl, Hugo Gernsback, Executive Secretary, Charles D. Hornig, Assistant Secretary.

The SCIENCE FICTION LEAGUE is a membership organization for the promotion of science fiction. There are no dues, no fees, no initiations, in connection with the LEAGUE. No one makes any money from it; no one derives any salary. The only income which the LEAGUE has is from its membership essentials. A pamphlet setting forth the LEAGUE's numerous aspirations and purposes will be sent to anyone on receipt of a 50 stamp to cover postage.

One of the purposes of the SCIENCE FICTION LEAGUE is to enhance the popularity of science fiction, to increase the number of its loyal followers by converting potential devotees to the cause. To this end, the SCIENCE FICTION LEAGUE supplies members with membership letterheads, envelopes, label buttons, and other essentials. As soon as you are enrolled as a member, a beautiful certificate with the LEAGUE'S seal will be sent to you, providing 15c in stamps or coin is sent for mailing and handling charges. However, this will be given free to all those enrolled members who find it possible to call personally at Headquarters for it.

Another consideration which greatly benefits members is that they are entitled to preferential discounts when buying science fiction books from numerous firms who have agreed to allow lower prices to all SCIENCE FICTION LEAGUE members. The book publishers realize that, the more fervid fans there are to boost science fiction, the more business will result therefrom; and a goodly portion of the publishing business is willing, for this reason, to assist SCIENCE FICTION LEAGUE members in lowering their science fiction collections by securing the latest books of this type at discounted prices.

SCIENCE FICTION ESSENTIALS LISTED HERE SOLD ONLY TO SCIENCE FICTION LEAGUE MEMBERS

All the essentials listed on this page are never sold to outsiders. They cannot be bought by anyone unless he has already enrolled as one of the members of the SCIENCE FICTION LEAGUE or sign the blank on this page (which automatically enrolls him as a member, always provided that he is a science fiction enthusiast).

If, therefore, you order any of the science fiction essentials without filling out the blank, or a facsimile (unless you are already enrolled as a LEAGUE member), your money will be returned to you.

Inasmuch as the LEAGUE is international, it makes no difference whether you are a citizen of the United States or any other country. The LEAGUE is open to all.

FREE CERTIFICATE

To the left is an illustration of the certificate provided all members of the SCIENCE FICTION LEAGUE. It is sent to all members upon receipt of 15c in stamps to cover mail charges.

WONDER STORIES is the voice of the SCIENCE FICTION LEAGUE—a monthly department appears in the magazine.

LEAGUE LETTERHEADS

A beautiful letterhead has been especially designed for members' correspondence. It is the official letterhead for all members of the LEAGUE and is invaluable when it becomes necessary to correspond with other members or with Headquarters.

A—SCIENCE FICTION LEAGUE letterheads, per 100.....Prepaid 50c

LEAGUE ENVELOPES

So that letters mailed to members of the LEAGUE can be immediately recognized, special envelopes that harmonize with the letterheads have been printed.

B—SCIENCE FICTION LEAGUE envelopes, per 100.....Prepaid 50c

LEAGUE SEALS

These seals, or stickers, are printed in three colors and measure 1 1/4" in diameter, and are gummed on one side. They are used by members to adhere to stationery, letterheads, envelopes, postal cards and the like. The seal signifies that you are a member of the SCIENCE FICTION LEAGUE. Sold in lots of 25's or multiples thereof.

C—SCIENCE FICTION LEAGUE seals, per 25.....Prepaid 15c

LEAGUE LABEL BUTTON

This beautiful button is made in hard enamel in four colors—red, white, blue and gold. It measures 1 1/2" in diameter. By wearing this button, other members will recognize you. Many friends will perhaps also want to join the LEAGUE. The button must be seen to be appreciated.

D—SCIENCE FICTION LEAGUE label button.....Prepaid 25c

DD—SCIENCE FICTION LEAGUE label button, like the one described above, but in solid gold.....Prepaid \$2.50

If you do not wish to mutilate this magazine, any number of applications will be supplied upon request.

SCIENCE FICTION LEAGUE, 99 Hudson Street, New York, N.Y.

Application for Membership

SCIENCE FICTION LEAGUE

SCIENCE FICTION LEAGUE, 99 Hudson Street, New York, N. Y.
I, the undersigned, herewith desire to apply for membership in the SCIENCE FICTION LEAGUE. In joining the LEAGUE, I understand that I am not assessed for membership and that there are no dues and no fees of any kind. I pledge myself to abide by all the rules and regulations of the SCIENCE FICTION LEAGUE, which rules you are to send me on receipt of this application.

I belong to the following class (put an X in correct space): () Professional; () Business; () Student; () (Please print information)

Name.....Age.....

Address.....

City and State.....

Country.....Date.....

I enclose 15c for postage and handling, for my Membership Certificate.

SCIENCE FICTION LEAGUE, 99 Hudson Street, New York, N. Y. Gentlemen:

I am already enrolled in the SCIENCE FICTION LEAGUE. I am a new member and attach my application to this coupon. Please send me the following SCIENCE FICTION LEAGUE essentials listed in this advertisement: (Please print information)

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(The LEAGUE accepts money orders, cash or new U. S. stamps in any denomination. Register cash or stamps.)

Name.....

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City.....State.....WS-125

Science Fiction League

At a Directors Meeting held in New York City, New York, in the United States of America, the Science Fiction League has elected

John Dew

a member of this League.

In Witness whereof, this Certificate has been officially signed and presented to the above.

Charles Hornig

KNOW THYSELF!



On the Newsstands **25c** the Copy

POPULAR MEDICINE is opposed to useless surgical operations; **POPULAR MEDICINE** is edited by the well-known Dr. David H. Keller, and all articles appearing in it are written exclusively by men in the medical profession.

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Takes in this year 600 unmarried men between ages of 20 and 28 years and gives them **FREE FLYING TRAINING** consisting of 300 **SOLO FLIGHTS**, including cross country and night flying. Gives them Special Uniforms, Transportation to the Field, Living Expenses, and also pays each man \$75 a month for learning to FLY. **PLENTY OF FLYING HERE.** The Training costs Absolutely Nothing. Let us tell You: How to Get In; Information about Uniforms, Rank, Leave, and Actual Life at the NEW \$19,900,000 Field. Send your Name. Hand postman \$1 and postage when 9000-word information comes. It is **COMPLETE.** Nothing else to buy.

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Be sure to turn to page 1022 of this issue and read the interesting advertisements in the "Swap Section." There is surely one or two items that will interest you.

THE SCIENCE FICTION SWAP COLUMN

A department for the buying, selling, and exchanging of fantastic literature. Only ads of this nature accepted. Rates 2c per word. No discounts. Cash should accompany all orders. Advertisements to appear in the February issue must be received not later than Dec. 4th. Send all communications to WONDER STORIES, SWAP EDITOR, 99 Hudson St., New York City, N. Y.

A SERVICE TO OUR READERS

FOR SALE

FIRST VOLUME of Amazing Stories and other science-fiction. Send stamped envelope for list. Charles D. Hornig, 137 W. Grand St., Elizabeth, N. J.

ALL Science Fiction Magazines. Fifty different dates. Only 10c each; quarterlies 25c. Postpaid, 10 copies for \$1.00. Send want list. H. Weissman, 161 W. 21st St., New York, N. Y.

"THE DOUBLE SHADOW and Other Fantasies" by Clark Ashton Smith—a booklet containing a half-dozen imaginative and atmospheric tales—stories of exotic beauty, glamour, terror, strangeness, irony, and satire. Price: 25 cents each (coin or stamps.) Also a small remainder of "Ebony and Crystal," a book of 114 prose-poems published at \$2.00 reduced to \$1.00 per copy. Everything sent postpaid. Clark Ashton Smith, Auburn, California.

WEIRD TALES: May, July, 1925, August, 1926; Arroyo, March, April, 1918; others, 30c each postpaid. Daniel Jacoby, 640 Riverside, New York City.

DR. DAVID H. KELLER's new story, "Rider by Night"—never before published. Limited edition, ten cents each. Rush order if you want your copy. FREE! With every copy we will give a copy of Clark Ashton Smith's "Epiphany of Death"—also never before published—limited time only. Don't wait!—Charles D. Hornig, 137 W. Grand St., Elizabeth, N. J.

OLD WONDER STORIES and other rare science fiction from almost forgotten magazines. Excerpts from old Argosies, All-Stories, Munsey's, Blue Books, Cavaliers, Scrapbooks, Everybody's, Populars, Dr. Hackensaw's Secrets from Science and Invention, Old Weird Tales, Thrill Books, Black Cats. Very reasonable prices. Send for list to: Isidore Manzoni, 389 S. 4th St., Brooklyn, N. Y.

WONDER STORIES presents the very best in science-fiction literature. Don't take the chance of finding your newsdealer out of copies. Subscribe now—it's cheaper and more convenient (right to your door) and you receive each issue earlier. Price: \$2.50 per year. Address: Subscription Department, WOODS STORIES SPSC15, 99 Hudson St., New York City, N. Y.

SCIENCE-FICTION BOOKS, magazines, for sale, trade. Will trade first edition "Messiah of the Cylinder" for first "Darkness and Dawn." English science-fiction fans please note: Will trade science-fiction books for: English editions any books by M. P. Shiel; some Hargard, Corelli, Wells, Emily Lawless, Stoker, etc. Harold Taves, 1607 East 172nd St., Seattle, Wash.

THE FANTASY FAN is a fan magazine for lovers of the fantastic. We are now established and well into our second year. Here you will find articles, columns, departments, items of interest, biographies (all of a fantastic nature) by such prominent authors as Clark Ashton Smith and Eando Binder, besides the other leading authors of fantasy in the country and the world's most active science-fiction and weird tale fans. Also poetry and brand new short stories. If you are a lover of fantastic literature, you should join the throng of loyal fans that have supported us this past year and a half—\$1.00 a year, 10c per copy. Edited by the Managing Editor of WOODS STORIES. The Fantasy Fan, 137 W. Grand St., Elizabeth, N. J.

FOR SALE

MIRACLE STORIES (two issues); Marvel Tales (three issues), two dollars per set. The most sought-after items in the field of science-fiction collecting. S-F Syndicate, 509 W. 26th St., Austin, Tex.

"HOW TO WRITE a Science Fiction Story" and "Celebrities I've Met"—information on science-fiction notables. Both for 10c. Charles D. Hornig, 137 W. Grand St., Elizabeth, N. J.

WONDER and Amazing Monthlies and Quarterlies, also Weird Tales and other Magazines for sale cheap. Write for lists. Louis Leibovitz, 8335 Cambridge St., Philadelphia, Pa.

COLLECTORS!—Add one or more of my original manuscripts to your collection. I am offering for sale such stories as "The Human Termites," "The Conquerors," "The Evening Star," "The Menace," "The Metal Doom," and others—all the bona fide type-scripts. All stories are full novel length. What am I offered? David H. Keller, "Underwood," 55 Broad St., Stroudsburg, Pa.

COMPLETE sets or single issues: Air Wonder, Astounding, Amazing and Quarterly, Wonder and Quarterly. Send Want List. Will quote prices. Harry Boesel, 1623 E. 55th, Chicago.

"THE KINGDOM of the Worm," by Clark Ashton Smith, and "The Ancient Voice," by Eando Binder—never before published. Limited edition, 10c each story. Charles D. Hornig, 137 W. Grand St., Elizabeth, N. J.

WANTED

WEIRD TALES, 1923-4-5-6. Also Argosies, All-Stories, and Science-Fiction. Cash or trade. E. Weinman, 57½ L. ndhurst St., Rochester, N. Y.

BACK NUMBERS of all science-fiction magazines from 1926 to 1964. Leslie J. Johnson, 46, Mill Lane, Liverpool, 18, England.

WEIRD TALES for August 1926, also the covers of certain issues, also Amazing covers. What do you want for them? Charles D. Hornig, 137 W. Grand St., Elizabeth, N. J.

EXCHANGE

USE THIS SECTION if you have any fantastic fiction that you would like to trade for other material that you have not as yet read.

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The greatest threat to the nation's health is tuberculosis. It is the chief killer of men in industry between the ages of 15 and 45—20,000 men in this group alone die of it every year. No one is safe from the disease until every case has been found and placed under treatment. Help protect yourself and your family by using Christmas Seals on your holiday letters and packages. The funds they provide finance a program of prevention, discovery, and treatment of tuberculosis throughout the entire year.



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EVERYWHERE**

This new guide, "THE PERFECT BARTENDING HOST AT HOME" contains over 15 old-time favorite drinking songs and dozens of toasts, jokes, wisecracks, and witty remarks. It is a book which affords many hours of entertainment and amusement.

There are over 50 illustrations which offer plenty of amusement for readers.
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GREN PARK COMPANY
Dept. W5

99 HUDSON STREET NEW YORK CITY

When I Learned Millions of Men Suffer With This Gland Disorder



**I Resigned as Executive of a Seven Million Dollar Corporation to
Bring Men the News of this Great Drugless Home Treatment**

NOW... Men in Every Civilized Nation Praise this Great Discovery

FOR many years I was a directing executive of one of the larger steel concerns in the Pittsburgh district. Then came an event that caused me to quickly resign from this lucrative position with assured future.

For some time I had been consulting a scientist with regard to certain manufacturing formulas. One day, after such a discussion in my office, this man said, "You have many men working for you. Have you ever noticed how many men seem to suddenly grow old, go all to pieces in less than a year's time when they reach a certain middle age?" I told him I had noticed this in many cases. Further I said I was very much interested as I was nearing 40 myself.

"Prostate trouble is the answer," he said.

"That hardly seems possible," I replied. "Why, I know of very few men who ever had that disorder."

"Yes, most men are like you—they know little about the prostate gland—yet highest medical authorities definitely say that nearly 7 men out of every 10 have prostate disorder after the age of 50. Literally millions of men have prostate trouble without knowing it. Some confuse their trouble with kidney or bladder derangement. Others think that they are aging prematurely, that pains in feet, legs, back and head and increasing frequent nightly risings are natural and nothing can be done about them."

Then he told me of his discovery, a simple, easy way to revitalize the prostate gland—and how he had placed it in the hands of physicians and afflicted men for conclusive trial. The results had been even more satisfactory than expected, in some cases almost incredible.

He ended by saying, "Money and business experience is necessary to bring this discovery to the millions of men

who need it, at a cost everyone can afford. You are just the man."

My decision was made within a few days. Today I see that decision rewarded a thousand times over. Thousands of letters come to me from men telling of relief from most distressing conditions. Some tell how they have been saved from the necessity of the surgeon's knife in a painful-gland operation. Others tell of relief after all other methods have failed. Many say they feel 20 years younger—relieved from the torturous and painful conditions that often make life a burden for men of mature years.

Are you aging too soon . . . getting up 5 to 10 times at night . . . are you on the down grade, half-living, blue, depressed, subject to chronic constipation, chronic fatigue, backache, and weakness? Then it would give me great pleasure to tell you, too, how this scientist's discovery can be used in your own home with the understanding that unless you feel its amazing benefits within a week's time, it costs you nothing. America's most noted sanitarium has advised it for home use.

You owe it to yourself to act at once. Send no money. Simply mail the coupon at once. **W. J. KIRK, President, The Electro Thermal Co., 5585 Morris Ave., Steubenville, O.**

If you live West of the Rockies, address The Electro Thermal Co., 500 Wm. Fox Building, Dept. 55-S, Los Angeles, Calif. In Canada, address The Electro Thermal Co., Desk 55-S, 53 Yonge St., Toronto, Canada.

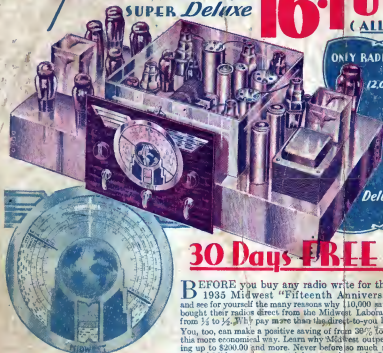
**W. J. Kirk, Pres.,
The Electro Thermal Co.,
5585 Morris Ave., Steubenville, O.**

Please mail at once a free copy of the booklet, "Why Many Men Are Old at 40," and all details about the new treatment. I'm not obligated in any way.

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Address
City State

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Thrill to Guaranteed World-Wide HIGH FIDELITY Performance with This Amazing New 1935 MIDWEST 6-TUBE ALL-WAVE Radio! (ALL FIVE WAVE BANDS)



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BEFORE you buy any radio write for the new FREE 1935 Midwest "Fifteenth Anniversary" catalog and see for yourself the many reasons why 10,000 satisfied customers bought their radios direct from the Midwest Laboratories and saved from $\frac{1}{2}$ to $\frac{3}{4}$. Why pay more than the direct-to-you laboratory price? You, too, can make a positive saving of from 38% to 50% by buying this more economical way. Learn why Midwest outperforms sets costing up to \$200.00 and more. Never before so much radio for so little money! Midwest gives you triple protection with: One-Year Guarantee, Foreign Reception Guarantee, Money-Back Guarantee.

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This dial was designed in keeping with the trend of the times, yet is not an airplane dial! It is a many-purpose dial that performs many functions. Now, Midwest guarantees that experienced persons can secure good foreign reception. Send for FREE miniature of actual rotating dial which clearly shows these outstanding advantages:

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All 5 Wave Bands enable you to enjoy today's finest High Fidelity American programs. In addition, you get Canadian, police, amateur, commercial, airplane and ship broadcasts and derive new delight and new excitement from un-

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Take advantage of the amazing 30-day FREE trial offer. Send for FREE catalog.

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SAVE UP TO 50%

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Writest obligating as my next week receive your new FREE 1935 catalog, FREE Stimulator Dial, and complete details of your liberal 30-day FREE trial offer. This is NOT an order.

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Banish Fear
Prevent Disease
End Self Denial

KNOW THE AMAZING TRUTH ABOUT SEX AND LOVE!

Stop Worrying
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The Forbidden Secrets of Sex are Daringly Revealed!

AWAY with false modesty! At last a famous doctor has told *all* the secrets of sex in frank, daring language. No prudish beating about the bush, no veiled hints, but **TRUTH**, blazing through 376 pages of straightforward facts.

Love is the most magnificent ecstasy in the world... know how to hold your loved one... don't glean half-truths from unreliable sources. Now you can know how to end ignorance... fear... and self denial!

MORE THAN 100 VIVID PICTURES

The 106 illustrations leave nothing to the imagination... know how to overcome physical mistaking... know what to do on your wedding night to avoid the torturing results of ignorance.

Everything pertaining to sex is discussed in daring language. All the things you have wanted to know about your sex life, information about which other books only vaguely hint, is yours at last.

Some will be offended by the amazing frankness of this book and its vivid illustrations, but the world has no longer any use for prudery and false modesty.



A FAMOUS JUDGE SAYS THAT MOST DIVORCES ARE CAUSED BY SEX IGNORANCE!
Normal, sex-satisfied young people are torn apart because they lack sex knowledge.

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The Sexual Embryo
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WHAT EVERY WOMAN SHOULD KNOW

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Intimate Feminine Hygiene
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